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Legacy
South Carolina Institute of Archaeology and Anthropology

Inside...

Thank you for your generous support of the Archaeological Research Trust (ART) Endowment Fund and the printing of *Legacy*. Please send donations in the enclosed envelope to Nena Rice USC/SCIAA, 1321 Pendleton Street, Columbia, SC 29208, indicating whether you want to continue receiving *Legacy* and include your email address. All contributions are appreciated. Please visit our website at: http://www.sc.edu/sciaa. Nena Powell Rice, Editor, (nrice@sc.edu)

Stanley South Has Retired!

By Chester DePratter

On December 31, 2011, Stanley South retired after spending 42 years at SCIAA. He first came to the Institute in 1969 to conduct excavations at Charles Towne Landing as part of the state's tricentennial celebration, and in the decades that followed he worked on many of the most important historic sites in the state. The list of sites where he worked includes not only Charles Towne Landing, but also Ninety-Six, Fort Moultrie, Santa Elena, and Charlesfort, to name a few.

Stan studied under Joffre Coe at the University of North Carolina, and he was warned by Coe to stay away from historical archaeology if he expected to have a successful career. Not to be deterred, Stan went on to become one of the best known historical archaeologists in the country, and his book, *Method and Theory in Historical Archaeology*, has been a classroom standard ever since it was published in 1979. He was the founder and editor for the *Conference in Historic Sites Archaeology* for more than 20 years, and he has also been editor and distributor of two other series, *Historical Archaeology in Latin America* and *Volumes in Historical Archaeology* in more recent decades. He has received the Order of the Palmetto from the State of South Carolina in addition to career achievement awards from the Society for Historical Archaeology, the Southeastern Archaeological Conference, Appalachian State University, and a honorable PhD from the USC.. His impact on the field of historical archaeology has been international in scope, and there are few with a resume that can match his.

Stan continues to be a productive scholar, and he still comes into the office seven days a week to answer emails and work on his latest projects. In recent years, he has published several new volumes of poetry as well as a retrospective listing all of his publications as a companion to his autobiography, *An Archaeological Evolution*. Ever the productive scholar, I am sure that Stan will not let his retirement get in the way of his work!

On February 2, Stan will celebrate his 84th birthday, and all of us here at SCIAA are looking forward to celebrating that occasion with him. There will be a celebration of his illustrious career on February 25, and you are all invited. Please join us as we gather to recognize the outstanding contributions that Stanley South has made to the field of historical archaeology, to SCIAA, and to the State of South Carolina (See page 32).

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Director's Note

By Steven D. Smith
SCIAA Associate Director

The institute begins the year 2012 with optimism for an improving infrastructure. Already we have renovated our library, and we are working with USC's Thomas Cooper Libraries to find the means of integrating our holdings within the universities on-line catalog. Donations to the R.L. Stephenson Library Endowment Fund are very welcome to push this inititive forward. Thanks to Dean Mary Anne Fitzpatrick, we will, by the time this issue of *Legacy* is in press, be sharing with the Department of Anthropology, a new, 4,000 square-foot, state-of-the-art, research laboratory at the Jones Physical Science Center on South Main Street. By state-of-the-art I mean, two large artifact washing sinks, storage bins for artifact collections, portable and adjustable tables, ceiling mounted retractable electric cords, safety washes, fire suppression system, and a wall of windows for natural light (see Al Goodyear's article for a photo on page 8). Meanwhile, renovation continues at our curation facility. Getting that up to federal standards will be quite an accomplishment. It will also allow us to move collections stored at SCIAA's main building, open up more space, and increase accessibility to research collections. These changes have been needed since the early 1990s, and we sincerely thank the university and the Dean's office for making it finally happen.

This year marks a milestone in SCIAA history as we announce the retirement of Stanley South, the founding father of historical archaeology. Please read Chester's tribute in this issue on page 1, and note that Stan is still going at it. Besides our special celebration of his 84th birthday on February 2, 2012, we hope to continue to honor Stan and his work in the coming months. I remember many years ago, there was some talk that Stan would move on, and an upset SCIAA employee exclaimed—"there goes the franchise!" Stan stayed, and we have been enriched ever since.

As always, there is much to report on SCIAA activities, including Al Goodyear's report of activities at the Topper site and the Topper exhibit at USC-Salkahatchie. Tommy Charles and Terry Ferguson report

While attending the Society of Historical Archaeology (SHA) annual meeting in Baltimore, Maryland in January 2012, archaeologists Kim McBride, Stephen McBride, and I toured Fort McHenry. Here you see Steve McBride (right) and I set the final round in place during our demonstration on the proper method of stacking mortar shells. (Photo courtesy of Kim McBride)

on their field season at Robertson Farm, and the Savannah River Archaeological Research Program continues with its unparalleled research productivity.

I want to particularly note Charlie Cobb's description of our December 2011 fieldwork in Tupelo, Mississippi, since I tagged along. Please read Charlie's article (page 4) for the archaeological details. Let me fill you in on the rest of the story. Our team consisted of Principal Investigator Charlie Cobb, Chester DePratter, Jim Legg, Kim Westcott, Keely Lewis, and me. It was one of the best times I had had in the field in a long time. From Charlie's article, you know we were seeking evidence of the Ackia battlefield. What he might not have emphasized enough is that we were working largely in people's manicured front and back yards! Charlie and Chester took all the field notes, dealt with the local civic leaders, and drank coffee. Kim and Keely plotted our finds, and Brad Lieb, the Chickasaw Nation's Tribal Archaeologist, went from door to door in downtown Tupelo, gaining permission to metal detect in people's yards. That left Jim and I free to swing detectors all day. What a great time—I could leave Charlie, Chester, and Brad to deal with all the normal P.I. related worries. Our good friend, Tom Pertierra, joined us later in the week with two spanking new Garrett® metal detectors for Kim and Keely to try out their skills. I was amazed people allowed us to dig in their front yards, and I was also surprised to find small pockets of evidence of the 18th century town of Ackia. In one case, a landowner gave us a French sword pommel he had found in his garden and offered us the opportunity to detect there. Jim and I found gun parts, brass tinklers, and the usual assortment of pennies.

The Tupelo Crew, (left to right): Charlie Cobb, Chester DePratter, Kim Wescott, Keely Lewis, Steve Smith, Brad Lieb, and John Lieb. (As usual, the sun was shining on Charlie.). (SCIAA photo)

I have to say, the people of Tupelo and the Chickasaw Nation were extremely generous and gave us a warm welcome. They provided us with a fully furnished ranch house and cabin, and welcomed us with large baskets of candy and fruit (Kim and Keely hid the bubble gum). On three separate nights, we were guests at the homes of local families interested in Chickasaw archaeology.

Tupelo is, of course, the birthplace of Elvis. I think there is a city ordinance that requires any visitors staying more than a day to visit the cities' two sacred shrines—Elvis's birthplace and the hardware store where Elvis got his first guitar. On the last day, we took a couple hours off (it was raining anyway—I swear, really!) to pay our respects. The birthplace was unfortunately closed, due to flooding, but we learned Elvis wasn't there anyway, so, we left him a note and drove over to the hardware store. That was cool! It was a real hardware store of old, with creaky wood floors, and bins of bolts, screws, and washers. You could even still buy nails by the pound. After wandering down all the aisles, we gathered to hear the story of how Elvis got his first guitar. So the story goes, a young Elvis came into the store with his mom, and he spied a bicycle he really wanted. His mom didn't have the money for the bike and said no. He kept whining and crying about it until his mom offered to buy the guitar, and you know the rest of the story. Isn't it amazing how history turns on such small inconsequential events. If his mom had had the money, perhaps the world would have been spared the leisure suit, and America would have had their first Tour de France long before Greg LeMond. I've heard that many years later, Elvis advised a young Mick Jagger, "You can't always get what you want, but if you cry sometimes, you just might find, you get what you need." I can't wait to return to Tupelo in March 2012.

Research

Colonial Conflicts and the Carolina-Chickasaw Connection

By Charles Cobb

In May 1736, a mixed force of Indians, Africans, and Europeans under the command of French Governor Bienville attacked the Chickasaw village of Ackia. The ill-conceived and unsuccessful uphill assault on the well-fortified town led to heavy casualties among the French-led troops and a long retreat back to Mobile. Today, the former town of Ackia lies under the backyards of a neighborhood on the south side of Tupelo, Mississippi (Fig. 1).

Figure 1: The modern setting of the battle of Ackia. (SCIAA photo)

In December of 2011, SCIAA archaeologists joined Dr. Brad Lieb, archaeologist with the Chickasaw Nation, on a project to relocate and redefine the main points of the battlefield. The work was funded by the National Park Service Battlefield Protection Program. It represents one of several such grants received by SCIAA archaeologists, who have examined several pivotal battles and campaigns such as Sherman's march through South Carolina (Steve Smith) and the protracted naval conflict around Charleston (Jim Spirek). Our interests have been drawn to Mississippi because the Chickasaw were strong allies of the Carolina colony, and they established several settlements along the Savannah River. Long distance ties between Carolina and the Chickasaw heartland were viewed by leaders in Charleston and London as an important alliance against the growing colony of French Louisiana.

Our work consisted of metal detector survey and the occasional excavation of small shovel-test pits (Fig. 2). Because our field investigations were largely in lawns, we were anxious to keep our ground disturbance to a minimum. The neighborhood homeowners were extremely gracious in allowing us permission to dig in their yards, and were very enthusiastic about our study since the battle is well-known locally.

The results of our work were somewhat mixed. French surveyors managed to create detailed maps of the surrounding topography and of the location of Chickasaw settlements. This information, along with prior archaeological research in the area, helped us to readily identify the general location of Ackia and other nearby Chickasaw settlements. As might be expected, though, there has been considerable disturbance to the ridge top as the land was prepared for housing construction in the 1970s. Nevertheless, we were able to identify several pockets of well-preserved landscape in the locality along with a wide array of artifacts from Ackia and nearby villages (Fig. 3).


Fig. 2: Metal detecting for artifacts. (From left to right): Tom Pertierra, Steve Smith, and Brad Lieb. (SCIAA photo)


Fig. 3: Example of recovered artifacts. Top: l ead shot and mold for making shot. Bottom: brass "tinkler," a clothing ornament made from rolled brass or copper. (SCIAA photo)

The elevated landform where the main defensive structure of Ackia was located is still visible today. Also, one can follow the slope where the French led their ill-advised attack. So the general physical contours of the conflict still remain.

SCIAA archaeologists will return in March 2012 to examine the battle of Ogoula Tchetoka. The assault on Ackia was the southern part of a two-pronged pincer movement on the large cluster of Chickasaw villages in the region. Another French-led force from Canada attacked the town of Ogoula Tchetoka to the north two months before the Ackia battle, and with even more disastrous results. The French setbacks led to a reprieve for the Chickasaw, although the French continued to maintain constant pressure until they forfeited their North American possessions at the close of the French and Indian War in 1763.

We are grateful to the Chickasaw Nation for their support and for the opportunity to renew the Carolina alliance. In addition, we would like to extend our gratitude to the many residents of Tupelo who opened their private yards for our research, and to the local volunteers and supporters who facilitated our stay and and field work. We are anxious to return!

God's Fields

Landscape, Religion, and Race in Moravian Wachovia

Leland Ferguson

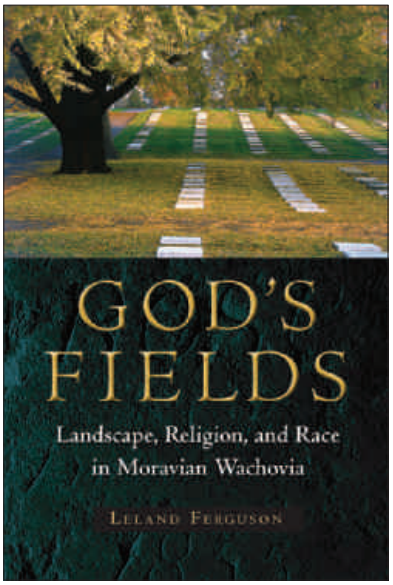
"Unfolds like a murder mystery and is hard to put down."—Christopher E. Hendricks, author of *The Backcountry Towns of Colonial Virginia*

The Moravian community of Salem, North Carolina, was founded in 1766, and the town—the hub of nearly 100,000 piedmont acres named "Wachovia"—quickly became the focal point for the church's colonial presence in the South.

While the brethren preached the unity of all humans under God, a careful analysis of the birth and growth of their Salem settlement reveals that the group gradually embraced the institutions of slavery and racial segregation. Although Salem's still-active community includes one of the oldest African American congregations in the nation, *God's Fields* reveals that during much of the twentieth century, the church's segregationist past was intentionally concealed.

Leland Ferguson's reconstruction of this "secret history" through years of archaeological fieldwork was part of a historical preservation program that helped convince the Moravian Church in North America to formally apologize in 2006 for its participation in slavery and clear a way for racial reconciliation.

Leland Ferguson is Distinguished Professor Emeritus of anthropology at the University of South Carolina. He is the author of *Uncommon Ground: Archaeology and Colonial African America, 1650–1800*, a recipient of the Southern Anthropological Society's James Mooney Award.



"Provides a fascinating and nuanced study of the transformations in religious and social ideals among Moravians as they worked to implement their aspirations in the harsh realities of a North Carolina landscape shaped by racism. Ferguson reveals the intersecting dynamics of religious aspirations, sectarian prejudices, conflicting designs across cultural landscapes, paradoxical divergences of religious ideals and social realities, and the life stories of African Americans working to navigate such contested terrain."
—Christopher C. Fennell, author of *Crossroads and Cosmologies*

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2011 Activities of the Southeastern Paleoamerican Survey

By Albert C. Goodyear

Fieldwork at Topper began early again in 2011 with the annual field school held for the University of Tennessee undergraduates. Under the supervision of Doug Sain, excavations were conducted from March 7-19, 2011 focusing on the Pleistocene alluvial sands immediately to the east of the deep pit within the building (Fig. 1). This was an effort to carefully remove the preClovis artifacts known to be in the upper Pleistocene layer in order to expose the top of the hard clay-rich Pleistocene terrace surface. As one proceeds east toward the hillside, the artifacts seem to increase in density, probably because the chert source is approached. Excavations also continued in the one-meter units already down in the terrace to eventually bring them to the 50,000 radiocarbon date level.

Fig. 1: Excavating preClovis artifacts in the Pleistocene alluvial sands at Topper. (SCIAA/SEPAS photo by Daphne Stubbolo)

During the regular Allendale Paleoamerican Expedition in May and early June 2011, excavations continued under the supervision of Doug Sain in the pavilion working on preClovis recovery in both the Pleistocene alluvial sands and down in the terrace (Fig. 2). Several interesting preClovis lithic artifacts were found, including a boulder-size core in the Pleistocene terrace that was so large it wasn't fully exposed by the end of the fifth week. It remains to be uncovered for the 2012 season. This season more OSL samples were taken, both in the deep terrace unit and the alluvial sands, in an effort to redate the preClovis at Topper using the more precise single-grain method. Topper preClovis was last OSL dated in 2002 using the single and multiple aliquot methods, which is not sensitive to subpopulations of sand grains of differing ages. This is being done in an attempt to independently evaluate the 50,000 radiocarbon dates in the terrace, which may be that old or even older, as radiocarbon doesn't work after about that time. Under the supervision of Derek Anderson, excavations on the Hillside focused on exposing the Clovis floors. Clovis was found in every two-meter unit, plus in units placed to the extreme north and northeast to continue to determine just how extensive the Clovis occupation is on the Hillside. As of the 2011 Field Season, it still has not been exhausted to the north and east, although it may be diminishing. Some unusual well-made uniface tools were found in one area suggesting we might possibly be seeing special activity areas beyond biface and blade manufacture.

Five weeks of excavation took place at 38AL228, a multi-component Clovis site on the north side of Smiths Lake Creek. Clovis-looking artifacts have been found there in a dirt road since at least 1997, and it was decided to systematically test the woods on either side of the road to evaluate the stratigraphy and search for more Clovis materials. Andrew Weidman, a graduate student from the University of Tennessee, supervised this work, which will form the basis of his master's thesis. Three Clovis point preforms have been found at this site, plus two good examples of macroblade cores. The site is not a quarry site but is located about 200 meters across the creek from two chert quarries, 38AL136 and 38AL138. The excavations at 38AL228 are being done to explore possible functional variation in Clovis sites in the neighborhood of the chert quarries beyond that of Topper (38AL23) and Big Pine Tree (38AL143).

Dredging at the Big Pine Tree site, took place during the first two weeks of the 2011 Expedition season, the fourth straight year of recovering artifacts from Smith Lake, which have been displaced there due to bank erosion. These underwater operations, conducted with the assistance and overall concurrence of the SCIAA's Sport Diver Archaeology Management Program in the Maritime Archaeology Division, have been very popular with the volunteers who enjoy helping pick the screens of artifacts. This underwater recovery has resulted in a very large and valuable collection of prehistoric artifacts from one site associated with a river chert quarry in a creek adjacent to the Savannah River. While hundreds of temporally diagnostic bifaces and tools

Fig. 2: Excavating in one-meter units down into the Pleistocene terrace at Topper. (SCIAA/SEPAS photo by Daphne Stubbolo)

Fig. 3: Examples of Clovis, Redstone and Dalton Paleoindian points from South Carolina. (SCIAA/SEPAS drawing by Darby Erd)

have been recovered from all time periods, including a substantial collection of Clovis bifaces and prismatic blades, only two Clovis points have been found. This finding parallels that of Topper where only four Clovis points have been found from over 600 square meters of excavation. It is obvious that while both sites represent substantial Clovis quarry related sites, finished Clovis points were apparently not manufactured here and hunting involving finished points was not a major activity. These may be important clues as to the overall organization of settlement activity within Clovis groups in this region. Starting with the 2012 season, dredging operations will move down stream to the Charles site, 38AL135, which is a quarry related site with much of the site eroded into the creek. The Charles site is thought to be another Clovis site like Big Pine Tree focused on the high quality chert naturally available in the creek. The occupational history there is also like that of Big Pine Tree with prehistoric groups from different periods obtaining tool stone from the creek bed. Summaries of the stratigraphy and occupational histories of both Charles and Big Pine Tree can be found in Goodyear (1999).

Research and publication continued with what is being called the Younger Dryas Boundary (YDB) including the controversial "Clovis comet" hypothesis, which states that some type of extraterrestrial object or objects came into North America around 12,900 years ago, or right at the time of Clovis. Since the original publication by Firestone et al. (2007), some studies have been published claiming no paleobiological evidence (Gill et al. 2009) or an inability to replicate the original Firestone team findings (Surovell 2009), the latter including sediments from Topper. In 2008, an independent geoscience team led by Malcolm Lecompte came to Topper to resample the Clovis stratigraphy under my direction, which included removing sediments from the Clovis artifact layer and from underneath the artifacts. The rational for the latter would be that the pieces of chert debitage would have shielded the ground from incoming materials. This study, (LeCompte et al. 2010), in fact, replicated the original Firestone et al. (2007) findings at Topper, plus two other Clovis sites. In particular, microspherules were significantly fewer underneath the debitage compared to the Clovis surface. Apparently, the difference between the Surovell study and that of the Lecompte team was failure by the former to consistently adhere to the Firestone protocols for spherule extraction. Additional studies are underway by different investigators spanning North America and Europe, which are showing results similar to the Firestone team.

Fig. 4: Ashley M. Smallwood in her 2006 Clovis Hillside excavations holding a Clovis point base. (SCIAA/SEPAS photo by Al Goodyear)

One implication of an extra terrestrial impact would be changes or outright damage to animal and human populations. In the original Firestone et al. (2007) publication, my study (Goodyear 2006) of the diminished post-Clovis Redstone point frequencies in South Carolina was pointed to as a possible indication of population decline. In South Carolina, there are from three to four times more Clovis points than Redstones. A similar drop in post-Clovis projectile point frequencies is reflected over the eastern U.S. in the Paleoindian Database of the Americas (PIDBA) (Anderson et al. 2010). In a recent study by Anderson, Goodyear, Kennett, and West published in *Quaternary International* (2011), these findings were broadened to include other lines of evidence besides point frequencies such as declines in major Paleoindian quarry usage and a drop in post-Clovis archaeological radiocarbon dates. Whether or not these declines in artifacts and radiocarbon dates equal population decline or demographic reorganization at the onset of the Younger Dryas, is not known for certain. In the central Savannah River Valley, both Topper and Big Pine Tree, show a lack of significant post-Clovis occupation, a pattern that is observable through the entire valley (Goodyear 2006). It is only by late Paleoindian Dalton times that significant Paleoindian points are widespread (see Fig. 3).

In recent years, the graduate student researchers at Topper have made considerable advances in their own careers, as well as solid research

Fig. 5: The new laboratory facilities now available for SEPAS collections analysis in the University's Jones Physical Science Center. (SCIAA photo by Steve Smith)

contributions to the program. Ashley M. Smallwood began excavating at Topper in 2006 (Fig. 4) and continued yearly through 2010. Altogether she excavated a 40 square-meter block, the findings from which have recently been submitted for publication (Smallwood n.d.). Her explicit identification of the basal Clovis layer on the Hillside and documentation of Clovis tools parallels that of Shane Miller's (2011) work in an adjacent 64 square-meter block, which provided the basis of his Masters thesis at the University of Tennessee. Previously, Ashley published a thorough analysis of the Clovis bifaces from Topper (Smallwood 2010), and in another study, compared them along with Allendale Coastal Plain chert Clovis points from South Carolina with those from the Williamson site in Virginia and Carson-Conn-Short site in Tennessee. This is the first inter-regional comparative study of Clovis centers in North America of what are thought to be contemporary macro-band groups. The latter work has been accepted by *American Antiquity* and should be published sometime this year (Smallwood 2012). For these publications, Ashley was awarded her doctorate from Texas A&M University in 2011.

Doug Sain began excavating at Topper in 2005 focusing on the preClovis deposits. In 2006, he entered graduate school at Eastern New Mexico University, and for his Masters thesis, analyzed the Clovis blades from Topper. His thesis was accepted in 2010, and he received his Masters degree in 2011. His thesis is currently being prepared for publication as *Occasional Paper No. 2* of the Southeastern Paleoamerican Survey (Sain 2012). Doug published several articles on Topper Clovis blade technology, including one in *Current Research in the Pleistocene* (2010) and a book chapter comparing blades from Topper with that of nearby Big Pine Tree (Sain and Goodyear 2012). Smallwood, Mlller, and Sain have also co-authored a book chapter on Topper Clovis (2012), which is currently in press at the University of Utah. In 2010, Doug enrolled in the doctoral program at the University of Tennessee and will be analyzing the preClovis artifacts from Topper for his dissertation.

Other graduate student research includes that of Megan Hoak King who undertook an analysis of Topper debitage from the ground surface down into the Pleistocene terrace. Her work resulted in her Masters thesis, which she successfully defended at the University of Tennessee in 2011 (King 2011). Among her findings were that there are cultural flakes in the preClovis Pleistocene alluvial sands as well as in the Pleistocene terrace. Taphonomic studies that explain their associations with these ancient stratigraphic units are pending and will be addressed by Doug Sain in his dissertation research. Derek T. Anderson, a doctoral student at the University of Arizona, continues to pursue his refitting studies of Topper Clovis debitage. Derek left SCIAA in 2011 to take a full time job with the Cobb Institute of Archaeology at Mississippi State University, but he remains with SEPAS as a research associate for Topper research. He presented an updated version of his refit study from the 4 X 4-meter unit excavated at Topper in 2010 at the 2011 Southeastern Archaeological Conference (Anderson 2011).

A great advancement in the program came about toward the end of 2011 with the acquisition of newly renovated laboratory space. The new joint SCIAA/Department of Anthropology 4,000 square-foot facilitiy (Fig. 5) will allow the detailed analysis necessary for the preClovis and Clovis materials from the Topper site and other projects on the Clariant property. SEPAS will be granted a generous area within this facility, which is a most welcomed provision. This spring, Beth Bell has been hired to help organize the collections to facilitate their analysis. Funds provided by SEPAS, and the Harper Family Foundation are being used for laboratory studies. More information about the projects and collections in the SEPAS laboratory will be provided in the near future.

Fig. 6: The Topper site exhibit at the University of South Carolina Salkehatchie campus. (SCIAA/SEPAS photo)

Fig. 7: The case displaying typical preClovis artifacts from the Topper site at the USC Salkehatchie exhibit. (SCIAA/SEPAS photo)

One of the highlights of 2011, was the installation of a permanent exhibit on the Topper site and its artifacts at USC Salkehatchie in Allendale, South Carolina (Fig. 6). The Topper site is only 15 miles away from this regional campus, and this is yet another example of the cooperative relationship our program has with USC Salkahetchie. John and Libby Winthrop, Clariant Corporation, and the Winthrop Family Allendale-Hampton Fund provided grant funds. Arrangements were made with the South Carolina Archaeological Public Outreach Division (SCAPOD) to produce the exhibit. Topics presented include the preClovis occupation of Topper with its controversial assemblage and apparent great age, as well as the remarkable Clovis occupation there. Classic chert artifacts from both periods are well displayed along with interesting graphics and photos presenting the data (Fig. 7). On September 15, 2011, the grand public opening of the exhibit was held with donors in attendance, as well as USC President Harris Pastides (Fig. 8) who provided gracious remarks for all who had a part in the exhibit. The exhibit is located in the Library Building and is open free to the public during its hours of operation.

For the spring of 2012, plans are being laid to examine paleomagnetism in the Pleistocene sediments of Topper by Dr. Joshua Feinberg of the University of Minnesota in search of any possible disturbances present not visible to the naked eye. He will also examine the Pleistocene terrace for evidence of the Laschamp Excursion dating about 40,000 years ago, a time when the earth deviated from its present magnetic orientation. If present, the latter would serve as a means of dating the terrace, and it would serve as an independent evaluation of the 50,000-year radiocarbon dates. Other geological studies planned are vibra coring with Dr. Scott Harris of the College of Charleston. We plan to core the deeper portions of the Pleistocene terrace (93.60M) where a black gumbo clay layer was encountered a few years ago in Backhoe Trench 14. This clay contained extraordinarily good preservation of plant remains including, hickory nuts and cypress seeds. This time coring will occur closer to the Hillside where the chert outcrop occurs checking on the possible presence of human worked lithics and perhaps wooden artifacts

The 2012 Allendale Paleoamerican Expedition will take place April 30-June 2, 2012. Members of the public are invited to sign up for a week or more and help excavate Topper preClovis and Clovis. Dredging operations will take place the first two weeks at the Charles site. Volunteers are needed both in the field and in lab work. For further information, please go to the SEPAS web site at www.allendale-expedition.net. As always, free public tours are available every Saturday during the excavation.

Thanks to the many volunteers and donors for their great help in 2011, they make all of this possible. Special thanks go to Darrell Barnes of Yesterdays Restaurant in Columbia for donation of food stuffs and storage, to Jack and Bill Kaneft of Colonial Packaging for their donation each year of plastic reclosable bags for our field and lab work, to Reid Boylston of Reid's Food Lion in Barnwell, South Carolina, and to Neeley Appliance Company in Denmark, South Carolina for refrigerators and repairs. Connecticut volunteer Neal Konstantin and his company PDC-Corp donated a custom made stainless steel dredge head for use dredging up all those chert flakes and artifacts from our underwater data recovery. Clariant Corporation, which owns Topper and the other important archaeological sites on their property, must be recognized for their great stewardship of some of South Carolina's most significant archaeological resources and for their extraordinary support of our field operations each year.

References

Anderson, David G., D. Shane Miller, Stephen J. Yerka, J. Christopher Gillam, Erik N. Johanson, Derek T. Anderson, Albert C. Goodyear, and Ashley M. Smallwood
2010 PIDBA (Paleoindian Database of the Americas) 2010: Current Status and Findings. *Archaeology of Eastern North America* 38:63-90.

Anderson, David G., Albert C. Goodyear, James Kennett, and Allen West
2011 Multiple Lines of Evidence for Possible Human Population Decline/ Settlement Reorganization During the Early Younger Dryas. *Quaternary International* 242:570-58.

Anderson, Derek T.
2011 *Lithic Refitting as a New Dimension of Analysis at the Topper Site*. Paper presented at the 68th Annual Southeastern Archaeological Conference, November 2011, Jacksonville, Florida.

Daniel, I. Randolph and Albert C. Goodyear
2011 *North Carolina Clovis*. Paper presented in the symposium "Clovis: Current Perspectives on Technology, Chronology, and Adaptations", 76th Annual Meeting of the Society for American Archaeology, Sacramento, California.

Firestone, R.B., et al.
2007 Evidence for an Extraterrestrial Impact 12,900 Years Ago That Contributed to the Megafaunal Extinctions and the Younger Dryas Cooling. *Proceedings of the National Academy of Sciences* 104:16016-16021.

Gill, Jacquelyn L., John W. Williams, Stephen T. Jackson, Katherine B. Liniger, and Guy S. Robinson
2009 Pleistocene Megafaunal Collapse, Novel Plant Communities, and Enhanced Fire Regimes in North America. *Science* 326:1100-1103.

Goodyear, Albert C.
1999 The Early Holocene Occupation of the Southeastern United States: A Geoarchaeological Summary. In *Ice Age Peoples of North America*, pp. 432-481, edited by Robson Bonnichsen and Karen L. Turnmire. Oregon State University Press, Corvallis.

2006 Recognizing the Redstone Fluted Point in the South Carolina Paleoindian Point Data Base. *Current Research in the Pleistocene* 23:100-103.

King, Megan Hoak
2011 *The Distribution of Paleoindian Debitage from the Pleistocene Terrace at the Topper Site: An Evaluation of a Possible Pre-Clovis Occupation (38AL23)*. Masters Thesis, Department of Anthropology, University of Tennessee.

LeCompte, M.A., A.C. Goodyear, M. Demitroff, D. Batchlor, E. Vogel, C. Mooney, and B. Rock
2011 *Unusual Material in Early Younger Dryas Age Sediments and Their Potential Relevance to the YD Cosmic Impact Hypothesis*. International Quaternary Association Congress, July 21-27, Bern, Switzerland.

Fig. 8: The grand opening of the Topper USC Salkehatchie exhibit on September 15, 2011. (Left to right): Dr. Al Goodyear, Daniel Bessinger of Clariant Corporation, Dean Ann Carmichael of USC Salkehatchie, and USC President Harris Pastides. (SCIAA/SEPAS photo)

Miller, D. Shane
2011 Clovis Excavations at Topper 2005-2007: Examining Site Formation Processes at an Upland Paleoindian Site Along the Middle Savannah River. *Occasional Papers 1*, Southeastern Paleoamerican Survey, South Carolina Institute of Archaeology and Anthropology, University of South Carolina.

Sain, Douglas A.
2010 A Technological Analysis of Clovis Blades from the Topper Site, 38AL23. *Current Research in the Pleistocene* 27:136-139.

2012 Clovis Blade Technology at the Topper Site (38AL23): Assessing Lithic Attribute Variation and Regional Patterns of Technological Organization. *Occasional Papers 2*, Southeastern Paleoamerican Survey, South Carolina Institute of Archaeology and Anthropology, University of South Carolina.

Sain, Douglas and Albert C. Goodyear
2012 A Comparison of Clovis Blade Technologies at the Topper and Big Pine Tree Sites, Allendale County, South Carolina. In *Contemporary Lithic Analysis in the Southeast: Problems, Solutions, and Interpretations*, edited by Philip Carr, Andrew Bradbury, and Sarah Price. The University of Alabama Press.

Smallwood, Ashley M.
2010 Clovis Biface Technology at the Topper Site, South Carolina: Explaining Variation and Implications. *Journal of Archaeological Science* 37:2413-2425.

2012 Clovis Technology and Settlement in the American Southeast: Using Biface Analysis to Evaluate Dispersal Models. *American Antiquity*, (in press).

n.d. An Evaluation of Assemblage Context Formation and Spatial Organization at Topper: A Clovis Site in the American Southeast. (Submitted to the *Journal of Field Archaeology*.)

Smallwood, Ashley M., D. Shane Miller, and Douglas Sain
2012 Topper Site, South Carolina: An Overview of the Clovis Lithic Assemblage from the Topper Hillside. In *The Eastern Fluted Point Tradition*, edited by Joseph A. M. Gingerich. University of Utah Press, Salt Lake City, Utah.

Surovell, T.A., V.T. Holliday, J.A. Gingerich, C. Ketron, C.V. Haynes, Jr., I. Hilman, D.P. Wagner, E. Johnson, and P. Claeys
2009 An Independent Evaluation of the Younger Dryas Extra-Terrestrial Impact Hypothesis. *Proceedings of the National Academy of Sciences* 104:18155-18158.

SCAPOD Update: Public Education at the Topper Site During the 2011 Field Season

By Erika Shofner

During the May-June 2011 field season at Topper, SCAPOD worked with the Allendale Paleoamerican Expedition and the Southeastern Paleoamerican Survey (SEPAS) to help develop new educational components to enhance the volunteer experience. At the beginning of each week, volunteers were given an update and tour of the site and returned to base camp to participate in a series of 20-minute stations designed to further their knowledge of archaeological materials, methods, and motivations. The goal behind these presentations was to not only teach volunteers how archaeology is done but also why these methods, and the data they gather, are important to the project as a whole.

Preclovis excavations at the Topper site during the 2011 expedition. (SCIAA/SEPAS photo)

This summer, there were four stations: John Simpson taught proper excavation technique and, with Tracy Hadlett, demonstrated how the total station is used to piece-plot significant artifacts. Bill Lyles and Beth Bell presented the field lab and its associated jobs, such as washing, sorting, weighing, cataloging, and labeling. Sarah Walters educated everyone on the newly revisited technique of flotation, used to help separate any charred botanical remains in the Topper soils. Finally, I gave a basic overview of artifact identification and used the newly developed "dig box" to allow volunteers the chance to try their hand at troweling before getting down into the actual Topper units. The dig box was created specifically for the Topper site and is currently a work in progress. Set up like an archaeological unit, the box has a clear front to allow people to see the "unit's" stratigraphy and a scattering of reproduction artifacts from the various time periods found at Topper, which has allowed volunteers to practice techniques such as pedestaling.

Dr. William Andrefsky (left) discusses what was found at 30AL228 with John Simpson and other volunteers during the 2011 expedition. (SCIAA/SEPAS photo)

The response to this "Education Day" was overwhelmingly positive. Volunteers enjoyed learning more about the how's and why's of the archaeological process. A number of new volunteers commented that they liked having the chance to practice excavating in the dig box before going down to the actual site—they felt there was less pressure associated with a simulation than with a real unit. SCAPOD also received good suggestions for improving the dig box, which will be implemented by the next field season. Overall, the Topper site is doing an excellent job at continuing to develop productive ways to educate the public about archaeology.

The 2011 Field Seasons at Robertson Farm Site 2 (38PN35)

By Tom Charles and Terry Ferguson

Fig. 1: December 2011 Excavation Unit at 38PN35 showing palisade line to the left and possible line of structural posts to right. (PAST photo by Terry A. Ferguson)

Excavations were conducted at Robertson Farm Site 2 (38PN35) from May 22-June 11, and December 12-29, 2011. The investigations in 2011 had two research objectives. One objective was to further examine the Mississippian (Pisgah) and Middle Woodland (Connestee) components of 38PN35. A number of new prehistoric features were exposed and mapped. The majority of these features were postholes. A few pit features were also exposed, including two large Connestee storage pits and an earth oven. Investigations to delineate within-site settlement patterning of structures and storage features are on going. An attempt was also made to more clearly define and date a previously identified palisade. Artifacts larger than one square-inch were piece plotted, and flotation and carbon samples, when present, were obtained from all excavated features. Pisgah features radiocarbon dated this year include a palisade post with an age of 2 Sigma Cal AD 1,320 to 1,430 (Cal BP 630 to 520) and pit feature with an age of 2 Sigma Cal AD 1,160 to 1,220 (Cal BP 790 to 690). Charcoal from a small pit feature, originally thought to be a post but containing two small ground and polished gaming stones, excavated in 2009, was dated at 2 Sigma Cal AD 880 to 1,000 (Cal BP 1,070 to 950). Charcoal from the Connestee Earth Oven was dated at 2 Sigma Cal BC 30 to Cal AD 90 (Cal 1,980 to 1,860 BP).

Fig. 2: 38PN35—Feature 310—large stratified Middle Woodland storage pit with NE quadrant excavated. (PAST photo by Terry A. Ferguson)

The second objective was to begin excavating an area of sufficient size, such that the more deeply buried Late, Middle, Early Archaic and Paleoindian components of 38PN35, over two and a half meters below surface, could be safely exposed and investigated. This year's investigations succeeded in reaching the transition between the Late and Middle Archaic components. As with the Mississippian and Middle Woodland components, artifacts greater than one square-inch were piece plotted, and flotation and carbon samples, when present, were obtained from all excavated features. Geoarchaeological investigations involving particle size analysis and magnetic susceptibility continued to focus on determining site formation processes and past climatic. A 2 Sigma Cal AD 640 to 680 (Cal BP 1,310 to 1,270) date was obtained from over a meter down in the current T0 terrace indicating development of this landform was well underway by the Middle Woodland. We would like to acknowledge Andrew Ivester's on-going geoarchaeological efforts directed toward understanding the sedimentary context of the site.

During the spring-summer field season in 2011, the number of visitors to the site increased dramatically, so we arranged to have archaeologist on-site

to give an overview of the sites history and to guide visitors on a tour of the site to explain what is being done and why. Instruction in excavation techniques was also given to those who wished to take part. A Field Day for visitors was also held for the first time this year. We would like to thank the South Carolina Archaeology Public Outreach Division, Inc. (SCAPOD) for conducting these efforts, and in particular Helena Ferguson's leadership in making outreach activities a great success (See page 14).

We would like to acknowledge the supervisory efforts of Fran Knight and Cameron Howell during the May and July 2011 investigations as well as the professional archaeologists and volunteers who worked on the site during the unseasonably warm conditions.

We would especially like to thank Poll Knowland, Manager of Table Rock State Park for providing bunkrooms for volunteers and Deborah Little who provided staff housing. Diachronic Research Foundation conducted the December 2011 investigations, focusing on the deep excavations. We would particularly like to thank Carl Steen and Chris Judge who directed and supervised a crew of graduate students and other professional archaeologists during these investigations. We also want to thank Chris Moore and Mark Brooks at SRARP for collection Optically Stimulated Luminescence (OSL) samples. We would also like to thank the Archaeological Research Trust (ART) for providing funds for ongoing botanical and radiocarbon analyses. Finally, we would like to thank all of those who have donated funds to these and other on-going investigations into Piedmont Archaeology; in particular we would like to acknowledge the continued support of Tony Harper, without whom these investigations would not have been possible.

Fig. 4: 38PN35—Features 294—earth oven with south half excavated and Feature 295—posthole. (PAST photo by Terry A. Ferguson)

Fig.3: 38PN35—Feature 626—large stratified Middle Woodland storage pit with NW quadrant excavated (Note: distinct sand lens). (PAST photo by Terry A. Ferguson)

SCAPOD Collaboration with PAST: Public Outreach at Robertson Farm Site (38PN35)

By SCAPOD and PAST

In late May and early June 2011, the Piedmont Archaeological Studies Trust (PAST) hosted its 2011 summer field season in Pickens County, SC. The South Carolina Archaeology Public Outreach Division, Inc. (SCAPOD) offered to help with the outreach portion of the field season. Visitors and volunteers come from all over the region to see what archaeologists are uncovering. Each year the site's visitor numbers have been steadily increasing, and this year the visitor turnout exceeded expectations. Through collaboration, PAST and SCAPOD designed a program to help meet the outreach needs of the expanding project.

This year, PAST archaeologists Terry Ferguson and Tommy Charles worked with Helena Ferguson of SCAPOD to develop a specialized outreach program to meet PAST's needs regarding outreach at the site. These needs included a mini-field museum, volunteer training and supervision, and daily tours of the site for visitors. At the end of the four-week season a free public field day was also held at the site for interested visitors.

This year, visitors and volunteers were greeted as they came onto the site with a field museum complete with informational panels about the site and PAST. The informational panels were of museum quality and provided a visual representation of past field seasons and finds. They also provided the visitor with an overview of what PAST was and its mission as a nonprofit organization. In addition to the panels, the field museum was fortunate to have beautiful surface collected artifacts each day provided by one of the project's most important supporter, Jesse Robertson.

Volunteers at Robertson Farms May 2011. (PAST photo)

Those wanting to participate in the excavation were allowed to dig and screen. Volunteers came from North Carolina, Georgia, Tennessee, and South Carolina. Accommodations for the volunteers were provided by the Table Rock State Park free of charge. This allowed for many volunteers from out of town to stay and participate for more than one day. Visitors came every day to the site from the local area and from out of town. After greeting them at the field museum, they were escorted around the site by a SCAPOD outreach assistant and given a tour that included an overview of the site's history and the progress of the field season, which was updated daily. In order to fill the demand for the tours, SCAPOD hired two additional outreach assistants to assist with the tours and volunteers, Savannah Hulon and Allison Baker.

PAST display at Robertson Farms dig in May 2011. (PAST photo)

Having a free public day at the site on Saturday, June 11 from 9 AM – 4:30 PM honored the last week of the field season. In addition to the field museum and tours that had been done throughout the season, there were additional programs for visitors that day. Archaeologists were available for visitors to have a one-on-one conversation about what they were finding. Roger Lindsay and SCAPOD's Erika Shofner provided demonstrations. Roger dazzled everyone with his primitive technology knowledge and atlatl expertise while Erika showed visitors how flintknapping is important to understanding what archaeologists find by recreating it using experimental archaeology. The day was a complete success with more than 75 visitors from the surrounding area and all over the state.

SCAPOD and PAST felt this collaboration was vital to the success of the outreach for the 2011 Robertson Farm site field season. Both hope to continue and expand on the collaboration in future field seasons. For more pictures and info on the collaboration, visit the SCAPOD website at www.scapod.org.

Savannah River Archaeology Research

The Savannah River Archaeological Research Program's Cinematic Outreach Program

By George L. Wingard

Filmmaker Mark Albertin of Scrapbook Video Productions and I completed two projects this past year and uploaded them onto sites for public viewing. We have another in the works, and two more projects in the planning stages.

The first to be uploaded is a four-minute film describing the cultural resource management, research, and outreach mission of the SRARP. Originally created as an extra on the DVD of Albertin's film Displaced: The Unexpected Fallout from the Cold War, (a film about the creation of the Savannah River Site and the removal of thousands of area residents—www.displaced.us) the short film has now been uploaded to the internet for easier access. The film can be accessed by visitingYOUTUBE.com then searching "Savannah River Archaeological Research Program—Cultural Resource Management."

The second is an eleven-minute film about the archaeology of Carolina Bays. Filmed during excavations at a bay in Blackville, South Carolina, the film discusses the formation of Carolina Bays, the methods used in the excavation, and some of the artifacts discovered (Fig. 1). It can be found at YOUTUBE.com by searching "Savannah River Archaeological Research Program—Carolina Bay Research" or by going to the SRARP.org website and clicking the link.

Fig. 2: George Wingard interviewing author Leonard Todd for an upcoming film project about the slave potter Dave. (Photo by Mark Albertin)

In the spring 2011, filming began on a documentary about the slave potter Dave and an example of one of his alkaline-glazed stoneware vessels found by the SRARP on the Savannah River Site (SRS). So far, interviews have been conducted with Leonard Todd, (Fig. 2) author of *The Slave Potter Dave*, author Laban Hill, and illustrator Bryan Collier, collaborators on the book, *Dave the Potter: Artist, Poet, Slave*, and Illinois State University archaeologist, George Calfas, during his excavation at the Pottersville Site in Edgefield, South Carolina. Other interviewees will include Dr. Maggi Morehouse of the University of South Carolina/Aiken, Dr. Keith Stephenson of the SRARP, and Edgefield Potter Stephen Ferrell.

Fig. 1: Mark Albertin, (far right) filming the excavation at Frierson Bay near Blackville, South Carolina. In the unit, are Dr. Andrew Ivester and Dr. Christopher Moore. (Photo by George Wingard)

The project will put Dave's life into historical context by discussing what is known about Dave and the area in which he lived and worked. The excavation of one of Dave's creations by the SRARP will also be highlighted: how it was discovered, why it was found where it was, and finally the use of the vessel as an outreach tool. It is hoped the film will be finished by mid-2012 so that it can be submitted to film festivals later in 2012.

Collaboration with Mark and Scrapbook Video Productions will continue with two new productions that will spotlight more SRARP research. In the planning stages is a short film about the research and excavation at Galphins Trading Post in Jackson, South Carolina and potentially a short on Native American research on the SRS. The use of short films and the internet make it simple to share research more concisely with interested individuals.

For more information, contact George Wingard at Wingard.sc.edu or phone (803) 725-3724.

Radiocarbon and Luminescence Dating at Flamingo Bay (38AK469): Implications for Site Formation Processes and Artifact Burial at a Carolina Bay

By Christopher R. Moore, SCIAA Savannah River Archaeological Research Program; Mark J. Brooks, SCIAA Savannah River Archaeological Research Program; Andrew H. Ivester, University of West Georgia, Department of Geosciences; Terry Ferguson, Wofford College, Department of Environmental Studies; and James K. Feathers, University of Washington, Department of Anthropology

Over the last three years, the Savannah River Archaeological Research Program (SRARP) has engaged in a long-term, volunteer-based geoarchaeological study of Carolina bays in the Central Savannah River Area (CSRA) (Moore and Brooks 2010). This work builds on previous Carolina bay research by the SRARP stretching back more than 15 years (e.g., Brooks et al. 1996, 2010). Carolina bays are oriented upland ponds on the Atlantic Coastal Plain from Northeast Florida to New Jersey, with their greatest numbers occurring in the Carolinas and Georgia (Walker and Coleman 1987). The focus here is on understanding site formation processes, particularly as they relate to archaeological site burial and preservation within bay sand rims.

A major long-term goal of this research is directed at understanding the functional role of Carolina bays within Paleoindian and Archaic settlement systems. To that end, data collected on the Savannah River Site (SRS) from Flamingo Bay (38AK469) and elsewhere in the CSRA are providing important linkages between climate, burial processes, and human adaptation since the late Pleistocene (Fig. 1). The most intensive investigations have been conducted at Flamingo Bay (Fig. 2), with more limited archaeological testing and specialized geoarchaeological analyses conducted at Carolina bay sites in Allendale and Barnwell counties (Moore et al. 2009, 2010). A detailed monograph on all three Carolina bays is forthcoming and will be published later this year as an occasional paper of the SRARP. The remainder of this paper will discuss the results of radiocarbon and optically stimulated luminescence (OSL) dating at site 38AK469 at Flamingo Bay. These dates were partly funded through generous grants provided by the SCIAA Archaeological Research Trust (ART) in 2009 and 2011.

Fig. 2: SRARP field crew and volunteers excavating at Flamingo Bay (38AK469) in 2009. (SCIAA/SRARP)

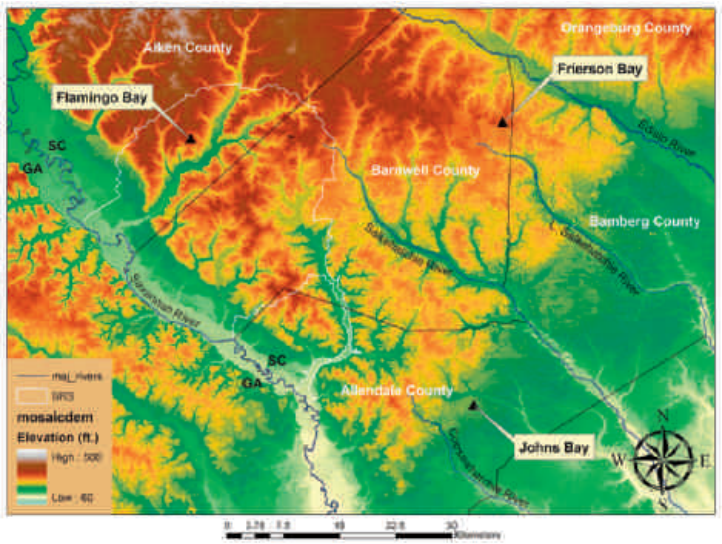


Fig. 1: Carolina bay study sites within the Central Savannah River Area (CSRA). (SCIAA/SRARP)

Radiocarbon Dating

Thirteen (n=13) radiocarbon dates were obtained from samples of carbonized nutshell from site 38AK469 at Flamingo Bay (Table 1 and Fig. 3). Eight of the 13 radiocarbon dates obtained in 2011 were funded by a grant through ART. Radiocarbon samples were selected from various units along north-south and east-west transects across our excavation block and included samples from a large feature or buried pit context, "general level" samples of carbonized nutshell from 2.5-centimeter excavation levels (Prov. 62, NE Quad), and general level samples from arbitrary 10 centimeter excavation levels (Prov. 55, 57, 58, 60, and 61). Two samples were collected from two different levels (Level E and G) from a large pit feature in Prov. 63. Together, these 13 radiocarbon dates serve as a check of single-grain luminescence age estimates (discussed below) and provide higher resolution temporal data on archaeological occupations and features. Below, the results of the radiocarbon dating are discussed along with implications for site formation and stratigraphic integrity.

The results of radiocarbon dating for Flamingo Bay produced an impressive number (n = 8) of middle Holocene, Middle Archaic dates between ca. 7,889 +/- 44 and 7,018 +/- 66 cal BP, as well as early

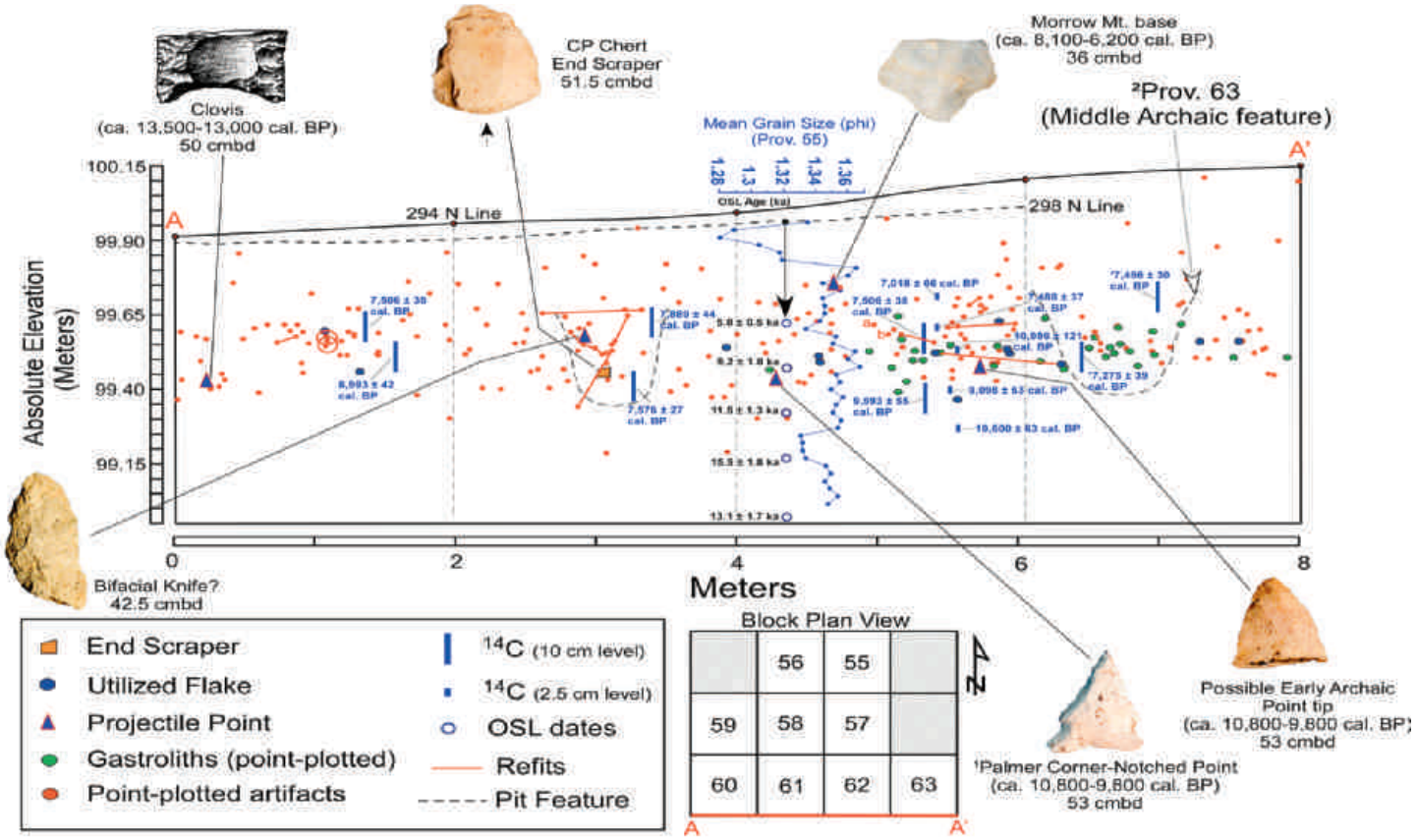


Fig. 3: Artifact backplot for Flamingo Bay (38AK469) for 2009 and 2010 fieldwork (Prov. 55-63), along with Prov. 25 from an earlier excavation. Calibrated ^{14}C dates are in blue and OSL age estimates are indicated by circles. Artifacts are not to scale. (SCIAA/SRARP)

Holocene, Early Archaic dates (n = 5) that range between ca. 9,098 +/- 63 and 10,986 +/- 121 cal BP. All radiocarbon dates were acquired from carbonized nutshell from across the entire excavation block and, in most cases, produced dates consistent with the known archaeostratigraphy of the site. Several deeper Middle Archaic dates appear to represent the injection of younger carbon into older sediments from pit features. Pit features are indicated by the distribution of carbonized hickory nut and vertical cobble refits through multiple levels. A large pit feature in Prov. 63 produced very similar ^{14}C dates (7,456 +/- 30 and 7,275 +/- 39 cal BP) for nutshell fragments between two samples separated by a 10-centimeter level.

While most ^{14}C dates are in good chronostratigraphic order, the oldest date (10,986 +/- 121 cal BP) appears out of place in the sequence of five dates from Prov. 62NE (Fig. 4A). With the exception of this date, a uniform and linear relationship between age and depth is suggested from the general level samples collected from this provenience. Together, these dates generally support archaeostratigraphic data from the site indicating a relatively intact archaeological sequence. For Flamingo Bay, three age clusters are evident, with gaps in between, suggestive of limited occupation or site abandonment at various times between ca. 7,000 and 11,000 cal BP (Fig. 4B).

The age-range for Morrow Mountain based on an analysis of radiocarbon dates for the Southeast suggests ages between ca. 8,100 and 6,000 cal BP (Fig. 5) (Moore 2009). A tighter cluster of dates within this group occurs at ca. 7,700-7,000 cal BP and may represent the peak of the Morrow Mountain horizon in the greater Southeast. The large number of Middle Archaic dates representing the estimated age-range for Morrow Mountain at Flamingo Bay is somewhat of a surprise given the lack of diagnostics recovered from that time period. From this block excavation, a single quartz Morrow Mountain hafted biface was recovered at 36 centimeters below datum (cmbd) in Level D and is likely positioned very near the occupation surface for Middle Archaic inhabitants at the site. The vertical position of this Morrow Mountain Point also corresponds to the likely surface of origin for several leached pits, including the large pit feature in Prov. 63. The number of Middle Archaic dates is also interesting given the observed low frequency of recognized Middle Archaic diagnostic tools in the Coastal Plain and the hypothesized abandonment or demographic shift during the mid-Holocene (Anderson 1996). Despite the lack of Middle Archaic diagnostics, our data indicate extensive evidence for large-scale processing of hickory nut during this time-period—an activity consistent with a fall habitation at Flamingo Bay.

Two ^{14}C dates returned calibrated ages consistent with the terminal Early Archaic (9,098 +/- 63 and 8,993+/- 42 cal BP). These dates are well placed stratigraphically. While the older sample (from the southernmost portion of the block) is somewhat younger than anticipated, given a similar depth for Early Archaic Corner-Notched occupations at the northern end of the excavation block, sedimentological and archaeostratigraphic

Table 1. Radiocarbon and calibrated dates from Flamingo Bay (38AK469).

Prov.	Level/Depth (cmbd)	Context	Radiocarbon Age	[1]cal BP (2 Sigma)	[2]cal. BP (1 Sigma)	Beta Number
55	G	General Level	8660 +/- 50 BP	9710 to 9540 cal BP	9593 +/- 55	283750
57	E	General Level	6620 +/- 40 BP	7580 to 7440 cal BP	7506 +/- 38	283751
58	D	General Level	7050 +/- 40 BP	7960 to 7800 cal BP	7889 +/- 44	283752
60	D	General Level	6620 +/- 40 BP	7580 to 7440 cal BP	7506 +/- 38	288772
60	E	General Level	8060 +/- 40 BP	9030 to 8970 cal BP, 8880 to 8870 cal BP, 8830 to 8800 cal BP	8993 +/- 42	288773
61	F	General Level	6710 +/- 40 BP	7620 to7550 cal BP, 7550 to 7510 cal BP	7576 +/- 27	288774
62	35-37.5	General Level	6140 +/- 40 BP	7160 to 6920 cal BP	7018 +/- 66	288775
62	45-47.5	General Level	6600 +/- 40 BP	7570 to 7430 cal BP	7488 +/- 37	283753
62	52.5-55	General Level	9610 +/- 40 BP	11170 to 10760 cal BP	10986 +/- 121	283754
62	67.5-70	General Level	8170 +/- 40 BP	9260 to 9010 cal BP	9098 +/- 63	288776
62	75-77.5	General Level	9380 +/- 50 BP	10720 to 10500 cal BP	10600 +/- 63	288777
63	E	Feature	6560 +/- 40 BP	7560 to7540 cal BP, 7510 to 7420 cal BP	7456 +/- 30	288778
63	G	Feature	6350 +/- 40 BP	7410 to 7390 cal BP, 7370 to7360 cal BP, 7330 to 7240 cal BP, 7210 to 7180 cal BP	7275 +/- 39	288779

Note: Level depths are 10 cm intervals (e.g., level E equals 40-50 cmbd) except where given as 2.5 cm intervals (Prov. 62, NE Quad)

[1] *INTCAL04 (2 Sigma) calibration*

[2] Fairbanks0107 calibration curve (1 Sigma)

data suggest rim sediments are slightly thicker to the south where this sample was collected. This inference is supported by the recovery of the basal portion of a quartz Taylor Point in Level 8 (70-80 cmbd) in Prov. 63 (not point-plotted). Finally, the three oldest dates for Flamingo Bay (10,986 +/- 121 cal BP, 10,600 +/- 63 cal BP, and 9,593 +/- 55 cal BP) are consistent with early Kirk or Palmer Corner-Notched (i.e., Kirk CN) or more likely Taylor Side-Notched (i.e., two oldest dates), while the later date may represent a later manifestation of Kirk Corner-Notched.

The traditionally accepted age-range for the "Kirk Corner Notched cluster" (i.e., Palmer and Kirk CN) is between ca. 9,500 and 8,800 radiocarbon years BP, or ca. 10,800 to 9,800 in calibrated calendar years BP (Anderson et al. 1996). The 9,593 +/- 55 cal BP date at Flamingo Bay was recovered stratigraphically lower than the recognized Kirk/Palmer occupation from the northern end of the Flamingo Bay excavation block and may represent intrusive carbon from later groups. Alternatively, this radiocarbon date, in conjunction with the two later Early Archaic dates and the relative absence of bifurcate and Kirk Stemmed horizons in the CSRA, may indicate a continuation of the "Kirk CN horizon" for several more centuries in the Middle Savannah River valley than generally recognized elsewhere. A similar, "late" Early Archaic radiocarbon date was obtained recently from carbonized nutshell at the Topper Site in Allendale County, South Carolina in association with Kirk CN (Derek Anderson, personal communication). All of these dates are discussed in context with luminescence age estimates below.

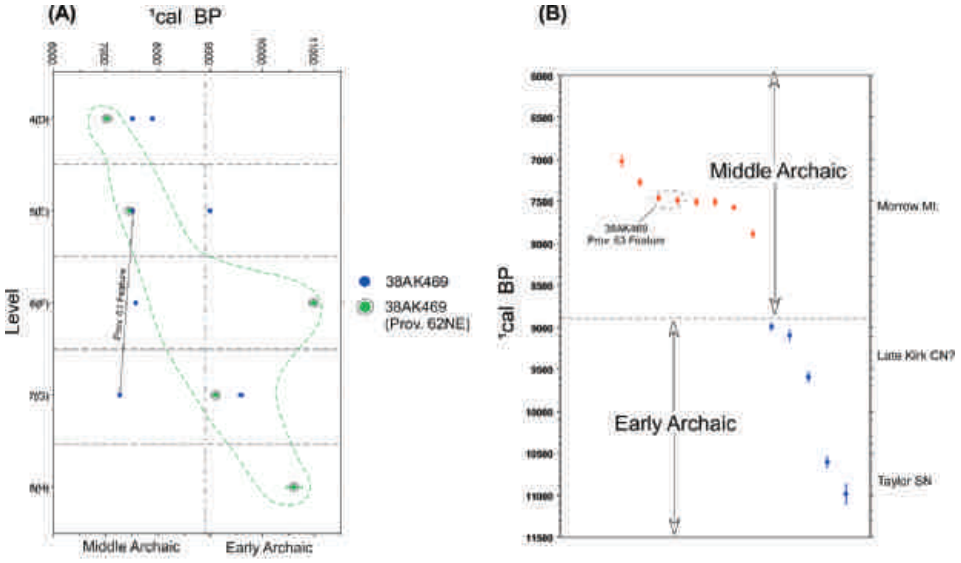


Fig. 4(A): Calibrated radiocarbon dates for Flamingo Bay (38AK469) by excavation level and (B) by cultural period. Green dots indicate ^{14}C dates taken from the Prov. 62 NE quad in 2.5-centimeter levels. [1]Calibrated dates were calculated using the Fairbanks0107 online calibration tool and are to 1 sigma (see Table 1). (SCIAA/SRARP)

Luminescence (OSL) Dating

This research incorporates a relatively new dating technique known as luminescence or optically stimulated luminescence (OSL) dating (Murray and Roberts 1997). Generally speaking, OSL

provides a measure of the amount of time sediments have been buried or the time since they were last exposed to sunlight. During depositional events, exposure to light releases any acquired luminescence signal. After burial, sand grains begin to accumulate natural background ionizing radiation (i.e., equivalent dose) within electron traps or defects in the crystalline structure of the sand grain. Equivalent dose is measured in the lab by artificially stimulating the acquired luminescence signal and modeling the measured equivalent dose as a function of time of burial (Feathers 2003). The goal of luminescence geochronology is to establish the timing of burial events (Aitken 1985).

Luminescence dating is perhaps the most critical for establishing a landform geochronology. With respect to Flamingo Bay (38AK469), single grain OSL dates (n = 5) collected during the 2009 field season returned minimum age model estimates consistent with the observed archaeostratigraphy at the site (Fig. 6). These age estimates range from 5.0 kiloannum (ka) at 35 centimeters below surface (cmbs) (40 cmbd) to 15.5 ka at 80 cmbs (85 cmbd) (below archaeological deposits). Age estimates of 9.2 ka and 11.5 ka between 50 cmbs (55 cmbd) and 65 cmbs (70 cmbd) bracket Early Archaic occupations at Flamingo Bay. Finally, a 13.1 ka OSL date at 100 cmbs (105 cmbd) statistically overlaps with the 15.5 ka data higher in the profile and may indicate a thicker package of potentially Younger Dyras aged sediments within the upper meter of the sand rim at Flamingo Bay.

Use of the minimum age model in OSL dating should not be confused with the use of 'minimum age' estimates derived from very old ^{14}C dating. In the latter case, the minimum age implies the potential for much greater antiquity, while the former (OSL minimum age model) is a method for extracting the true age of the desired or studied burial event in question. The 'minimum age model' age estimate is derived from a subset population of sand grains from positively skewed or multimodal equivalent dose distributions in cases where partial-bleaching or bioturbation of 'older' grains into younger sediments is suspected or inferred from analysis of luminescence and or other proxy data (Galbraith et al. 1999). In the later case, the archaeostratigraphy and corroborating ^{14}C dates become paramount to the application of various age models and the development of an OSL geochronology (Feathers et al. 2006; Moore and Daniel 2011).

Radiocarbon dates for Flamingo Bay support the use of the minimum age model for luminescence dating since ^{1}4C dates indicate an entirely Holocene origin for the upper ~70 centimeters at Flamingo Bay. In addition, only minimum age model estimates are consistent with the observed archaeostratigraphy at the site.

Recently recovered Clovis artifacts (Fig. 7) were found between 50 and 58 cmbd. The apparent vertical overlap of Clovis artifacts with Early Archaic artifacts is due to slightly more shallow deposits along the eastern sloping portion of the excavation block leading into the bay basin. In this case, historic erosion and plowing likely contributed to a lowering of the preexisting landform along this part of the sand rim.

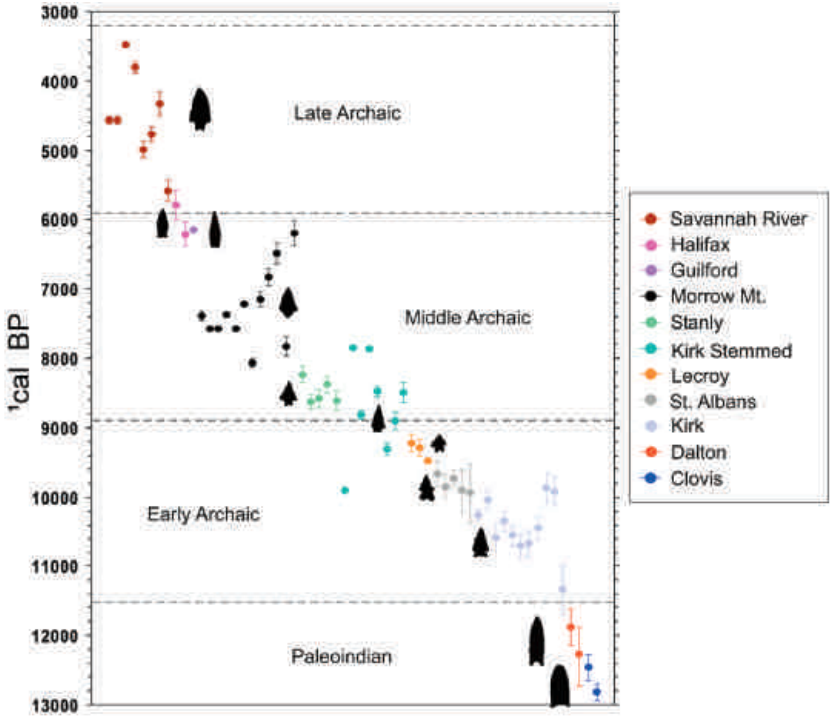


Fig. 5: Calibrated chronology (calendar years BP) and typology for Paleoindian and Archaic Points based on analysis of 59 ^{14}C dates from the Southeast (Moore 2009). ^{1}Calibrated dates were calculated using the Fairbanks0107 online calibration tool and are to 1 sigma. (SCIAA/SRARP)

Discussion

The development of a radiocarbon and luminescence chronology for 38AK469 is a crucial first step towards understanding site formation and post-depositional (i.e., taphonomic) processes affecting the distribution of artifacts at the site. In fact, this step is essential for making appropriate inferences about the meaning of archaeological data for understanding human behavior.

The saying that, "Lucky is the archaeologist with only one radiocarbon date" is probably true if that date meets your preconceived notion of what constitutes a "good" radiocarbon date, or if resources limit the number of radiocarbon dates to a very small number of samples. Clearly, as demonstrated here, more radiocarbon dates are not only desirable, but with increasing sample size, actually can tell us something about the natural and anthropogenic site formation processes that affect artifact distributions and subsequent behavioral inferences about those assemblages. Multiple dates

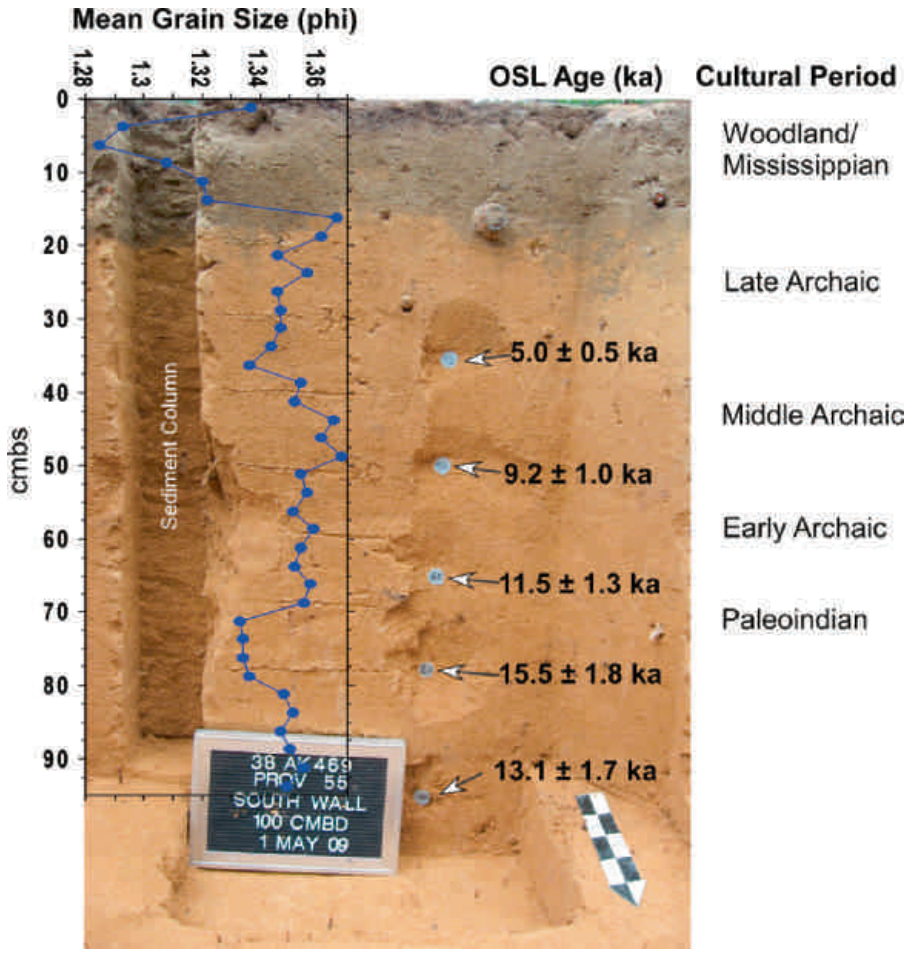


Fig. 6: South profile for Prov. 55 at Flamingo Bay (38AK469) showing sediment column, mean grain size data, OSL samples, OSL minimum age model estimates, and archaeological stratigraphy. (SCIAA/SRARP)

are all the more appropriate when dating carbon from general level (i.e., non-feature) contexts, where stratified deposits indicate a preserved matrix of sediments, artifacts, botanicals, calcined bone, and carbon (i.e., wood charcoal and charred nutshell) that are recognizable and represent various and distinct cultural, biological, and sedimentological inputs through time.

Luminescence dating, on the other hand, compliments radiocarbon dating by providing a check on radiocarbon dates and by establishing a timeline or geochronology for burial or sedimentation events. Thus, radiocarbon dating of cultural carbon (i.e., carbonized nutshell) provides a timeline of archaeological occupation, while OSL dating provides a geochronology of landform development and presumably postdates non-intrusive carbon contained within the stratified sediment matrix. Luminescence dates also provide additional information about site formation processes and site integrity not provided by radiocarbon dating (Feathers 2003).

Given our increased understanding of site formation and chronology, several preliminary observations are warranted with respect to behavioral or archaeological implications for bay rims in our study area. First, the presence of numerous Middle Archaic, mid-Holocene radiocarbon dates at Flamingo Bay was somewhat of a surprise, given the paucity of diagnostic Middle Archaic bifaces in most of the South Carolina Coastal Plain (Anderson et al. 1996). These dates may reflect a more substantial mid-Holocene presence at Flamingo Bay (a time when the bay basin was likely shutting down as an open water system) than generally recognized. Alternatively, the fact that all of our ^{14}C dates come from carbonized nutshell may have biased our sample towards the Middle Archaic since there is widespread evidence for increasing use and processing of nuts in the Southeast at this time (Anderson 1996).

Second, the presence of several Middle Archaic pit features at Flamingo Bay indicates more substantial resource utilization of diverse bay rim and bay basin environments in the Coastal Plain uplands. In many cases, these pits are only just barely recognizable by the presence of tiny flecks of carbonized nutshell and wood charcoal visible through multiple levels within individual or multiple excavation quads. The presence of Middle Archaic radiocarbon dates in levels normally associated with Early Archaic or Paleoindian occupations, along with a few cases of significant vertical displacement of artifact refits, testifies to the anthropogenic disturbance by Middle Archaic inhabitants. Out of 13 identified artifact refit groups, the average vertical displacement was ~five centimeters. Greater vertical separation for several refit groups appears to correlate with natural or anthropogenic disturbances (e.g., Middle Archaic pits). These pits may indicate long-term habitation of bay rim sites or more seasonally intensive exploitation of variably xeric to hydric bay rim slopes for collection and processing of nuts from masting trees.

Thus, it appears that archaeological data (i.e., tight vertical controls on archaeostratigraphy, diagnostic points, and artifact refits) and chronometric dating of sediments and carbonized nutshell may be useful for understanding not only where we have generally intact (relatively undisturbed) deposits, but also where sediments have been disturbed through later biological or anthropogenic activities. Overall, the radiocarbon and luminescence dates from Flamingo Bay are consistent with the archaeology.

Third, dating of carbonized nutshell has revealed that processing of hickory nuts has been an ongoing activity at Flamingo Bay for more than 10 millennia. Fragmented and carbonized nutshell found in association with gizzard stones and calcined animal bone (including bird) in pit features suggests smoking and preservation of meat was a significant activity at the site. The presence of

broken and carbonized nutshell shows that hickory and other masting trees were well established along the mesic slopes of bay sand rims by the early Holocene and were attractive to early hunter-gatherers in the region. In fact, carbonized nutshell fragments and grape seeds have also been recovered from within the area of the site that appears to contain a relatively pure Clovis activity area, consisting of numerous unifacial tools, gravers, and broken Clovis points. Nutshell fragments will be dated in the near future to determine if these botanicals relate to the Clovis occupation of the site. Confirmation of a Clovis age, ca. 13,150 to 12,850 cal BP (Waters and Stafford 2007), for these samples has significant implications for the ecological setting within the CSRA during the climate amelioration of the Bølling-Allerød interstadial and just before the onset of the cooler Younger Dryas climate event.

Together, radiocarbon dates and luminescence age estimates preclude bioturbation as the primary mechanism of artifact burial. Instead, these data suggest that Carolina bay sand rims, while shallow and stratigraphically complex, contain valuable paleoenvironmental and archaeological data if analyzed using appropriate methods and scales of analysis. These methods include a combination of numerous and close-interval radiocarbon and OSL dating to place archaeological deposits into appropriate environmental and cultural context. Further elaboration of these and other analyses is forthcoming in subsequent publications on Carolina bay geoarchaeology.

Work will continue at Flamingo Bay in 2012 to further investigate the Clovis occupation at the site, and to gather more data on the Archaic, Woodland, and Mississippian components. Lastly, this work would not be possible without the dedication of our Carolina bay research volunteers and contributions of the board members and trustees of the SCIAA Archaeological Research Trust (ART) that provided grants used in this research.

For more information on the Carolina Bay Volunteer Research Program please contact Dr. Christopher R. Moore, cmoore@srarp.org, office: 803-725-5227 or Dr. Mark J. Brooks, MJBROOKS@mailbox.sc.edu, office: 803-725-5221.

Fig. 7: Among the Clovis tools recovered at 38AK469 include two broken Clovis bases—one made from local Coastal Plain Chert (broken during manufacture) and one made from an exotic green vitric tuff (likely discarded during retooling) (SCIAA/SRARP)

References

Aitken, M. J.
1985 *Thermoluminescence Dating*. Academic Press, London.

Anderson, D. G.
1996 Modeling Regional Settlement in the Archaic Period Research in the Southeast. In *Archaeology of the Mid-Holocene Southeast*, edited by Kenneth E. Sassaman and David G. Anderson, pp. 161-180. Gainesville: University of Florida Press.

Anderson, D. G., L. D. O'Steen, and K. E. Sassaman
1996 Environmental and Chronological Considerations. In *The Paleoindian and Early Archaic Southeast*, edited by David G. Anderson and Kenneth E. Sassaman, pp. 29–57. University of Alabama Press, Tuscaloosa.

Brooks, M. J., B. E. Taylor, and J. A. Grant
1996 Carolina Bay Geoarchaeology and Holocene Landscape Evolution on the Upper Coastal Plain of South Carolina. *Geoarchaeology* 11:481-504.

Brooks, M. J., B. E. Taylor, and A. H. Ivester
2010 Carolina Bays: Time capsules of Culture and Climate Change. *Southeastern Archaeology* Vol. 29(1):146-163.

Feathers, J. K.
2003 Use of Luminescence Dating in Archaeology. *Measurement and Science Technology* 14:1493-1509.

Feathers, J. K., E. J. Rhodes, S. Huot, and J. M. McAvoy
2006 Luminescence Dating of Sand Deposits Related to Late Pleistocene Human Occupation at the Cactus Hill Site, Virginia, USA. *Quaternary Geochronology* 1:167-187.

Galbraith, R. F., R. G. Roberts, G. M. Laslett, H. Yoshida, & J. M. Olley
1999 Optical Dating of Single and Multiple Grains of Quartz from Jinmium Rock Shelter, Northern Australia: Part I, Experimental Design and Statistical Models. *Archaeometry* 41:339-364.

Moore, C. R., M. J. Brooks, A. H. Ivester, and T. A. Ferguson
2010 Geoarchaeological and Paleoenvironmental Research in FY10. In *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program, Fiscal Year 2010*, pp. 57-84. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Moore, C. R.
2009 *Late Quaternary Geoarchaeology and Geochronology of Stratified Aeolian Deposits, Tar River, North Carolina*. Unpublished Ph.D. Dissertation, Coastal Resources Management Ph.D. Program, East Carolina University.

Moore, C. R., M. J. Brooks, and B. E. Taylor
2009 Geoarchaeological and Paleoenvironmental Research in FY09. In *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 2009*, pp. 92-105. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Moore, C. R., and I. R. Daniel, Jr.
2011 Geoarchaeological Investigations of Stratified Sand Ridges Along the Tar River, North Carolina. In *Current Research in the North Carolina Coastal Plain*. North Carolina Archaeological Council Publication.

Murray, A. S., and R. G. Roberts,
1997 Determining the Burial Time of Dingle-Grains of Quartz using Optically Simulated Luminescence. *Earth and Planetary Science Letters* 152:163-180.

Walker, H. J., and J. M. Coleman
1987 Atlantic and Gulf Coastal Province. In *Geomorphic Systems of North America*, edited by W. L. Graf, pp. 51-110. Centennial Special, Vol. 2 American Geological Society, Boulder, Colorado.

Waters, M. R., and T. W., Stafford, Jr.
2007 Redefining the Age of Clovis: Implications for the Peopling of the Americas. *Science* 315:122-1126.

From Gizzards to Gastroliths: Early to Mid-Holocene Intensive Harvest and Processing of Migratory Waterfowl at a Carolina Bay in the Upper Coastal Plain of South Carolina

By Mark J. Brooks, Christopher R. Moore, and Andrew H. Ivester

Site 38AK469 is located on the eastern sand rim of Flamingo Bay, a Carolina bay on the U.S. Department of Energy's Savannah River Site in the Upper Coastal Plain of the Savannah River valley (Fig. 1). Carolina bays are oriented, upland ponds on the Atlantic Coastal Plain from Northeast Florida to New Jersey, with their greatest numbers occurring in the Carolinas and Georgia (Walker and Coleman 1987. Ongoing geoarchaeological investigations at Flamingo Bay have revealed numerous polished gastroliths or gizzard stones in direct association with archaeological material and features associated with Early, Middle, and possibly even Late Archaic occupations. Many of the recovered gastroliths appear as polished pebbles with rounded and polished high surfaces and unpolished low areas or crevices (Figs. 2 and 3). Often, recognizable gastroliths have the appearance of tooth enamel and are visually distinct from the natural pebbles deposited through geologic processes.

Excavations at 38AK469 have revealed numerous Early, Middle, and Late Archaic activity areas with concentrations of utilized flakes and small expedient unifacial tools. Numerous gastroliths have been recovered in association with these artifacts within a sediment matrix composed of carbonized hickory nut, seeds, and small pieces of calcined bone. Analysis of gastroliths and other artifacts (e.g., fire-cracked rock) indicate hearth-related activities, possibly including the preservation of meat through smoking. Some of the gastroliths appear to be of exotic or non-local stone, such as Ridge and Valley chert pebbles, implicating migratory waterfowl. Ethnographic data on processing of birds and smoking of meat by hunter-gatherers may be useful for interpreting the assemblage recovered at Flamingo Bay (e.g. Hudson 1976).

Fig. 2: Examples of gastroliths recovered from 38AK469 at Flamingo Bay. Note: Several samples have a "tooth enamel" appearance with rounded and polished high surfaces and dull crevices. (SCIAA/SRARP photo)

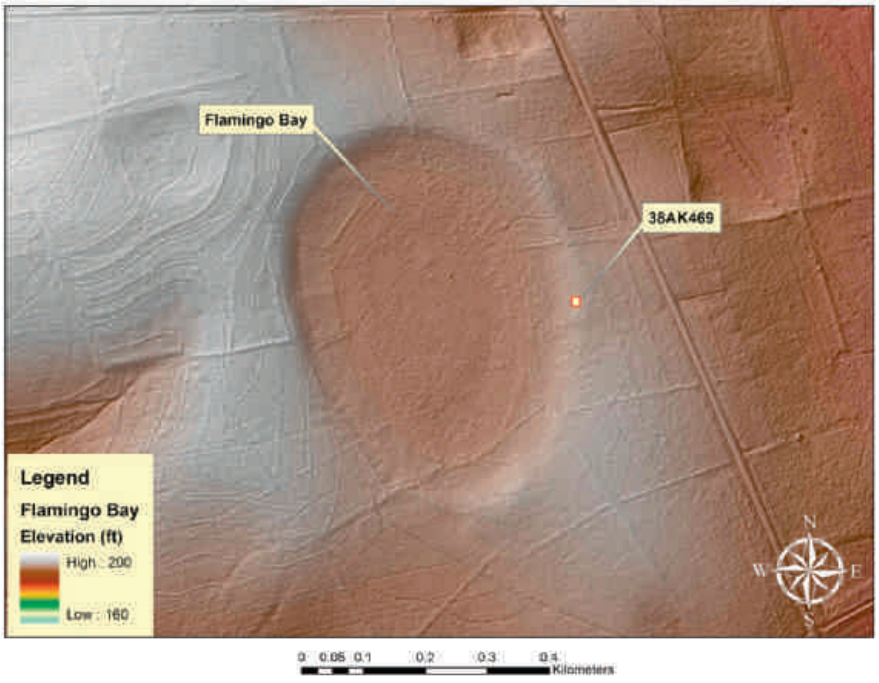


Fig. 1: LiDAR digital elevation map of Flamingo Bay and site 38AK469. (SCIAA/SRARP)

Several Early Archaic activity areas, or possibly discrete, small-scale occupations, were identified earlier at 38AK469 through systematic, close-interval testing (Brooks and Taylor 2003). All shovel tests were conducted on a 10-meter grid, subsequently reduced to five meters, and consisted of 0.50 X 0.50-meter units excavated in five-centimeter arbitrary levels to a depth of 80 centimeters below datum (cmbd). This, and all subsequent work have involved excavation in controlled levels, the processing of all soil through 6.4-millimeter (0.25-inch)

or finer mesh, and the retention of all pebbles. Pebble was retained to provide information about site formation process (i.e., water-lain vs. eolian sedimentation) within the sand rim at Flamingo Bay. These pebbles are reworked and deposited in the bay sand rim from much older geological deposits (i.e., Upland Unit) of probable middle Miocene age (Nystrom et al. 1991). Flamingo Bay formed on, and scoured into, the Upland Unit and has incorporated these pebbles into the sand rim through high-energy shore face processes during high water events.

Serendipitously, while collecting pebbles during the initial work on the current block excavation (2009), small "pebbles" were noticed by Chris Moore that at first looked curiously like tooth enamel. Subsequent lab analysis by Tammy Herron, SRARP Curator, identified these "pebbles" as gastroliths that seemed to be concentrated in the Early Archaic levels. In all cases, gastrolith frequencies peak in higher, predominantly eolian sediments, while naturally occurring, water-lain pebbles occur in higher frequency in deeper levels (near the base of, or below, archaeological deposits).

Spatially, when considering the additional block data (Proveniences 59-63) from 2010, and a reexamination by Herron of the systematic shovel test data for gastroliths, it is clear that intensive bird processing was confined to the block area. Temporally, in addition to Early Archaic bird procurement and processing, the 2010 block data indicate that the intensive activity persisted into the Middle Archaic where there seems to be a strong association between gastroliths, pit features (7,275+/-39—7,456+/-30 cal BP on hickory nut charcoal), and hickory nut charcoal (See discussion of radiocarbon dates from Flamingo Bay on pages 16-21). The latter possibly indicates mass processing and meat preservation through smoking (e.g. Hudson 1976). During the 2011 field season, calcined bone fragments were recovered sufficiently preserved to be identified by Tom Whyte (Appalachian State University, pers. comm., July 25, 2011) as "large bird." The gastroliths associated with calcined bird bone indicate that processing of waterfowl may also have continued into the Late Archaic. Sparse Woodland and Mississippian components are represented in the plow zone, but the dearth of gastroliths indicates that this was not a major activity. Beyond tool replacement activities, little can be said about the Clovis component at this time.

As noted in Moore et al. (2010), the size of the gastroliths (some exceeding 10 millimeters in maximum length) and the ecological setting implicate migratory waterfowl in the goose/swan/crane size range; however, turkey cannot be entirely ruled out (Dean Harrington, SC Department of Natural Resources, pers. comm., Oct. 21, 2010; Hudson 1976). Also, because only the upper size range of gastroliths is retained on the 6.4-millimeter mesh, and smaller gastroliths have been recovered using 3.2-millimeter (0.125-inch) mesh and flotation sampling, we cannot preclude the possibility that smaller birds were procured and processed as well. Conversely, our comparative data (e.g., the modern turkeys; see below) indicate that large birds also ingest sediments in the sand and grit size ranges.

A number of initiatives were implemented starting in 2009 to obtain more conclusive evidence from the gastroliths as to the target specie(s). Although there is a large body of information on bird gastroliths, there is surprisingly little quantified data relating gastrolith size to bird specie, beyond the general recognition that within the constraints of sediment availability, larger birds tend to ingest larger stones. Thus, seeing the necessity of collecting comparative data, we obtained nine gizzards from modern wild turkeys killed in Edgefield County, South Carolina, courtesy of Robert Abernathy of the Wild Turkey Federation. Also from Edgefield County, Edward Redman contributed five gizzards of various duck species. Thomas Harkins of the SC Department of Natural Resources contributed 24 duck gizzards of various species harvested on the Bonneau Ferry Wildlife Management Area (BFWMA) near Moncks Corner, South Carolina. Thus far, four of the BFWMA

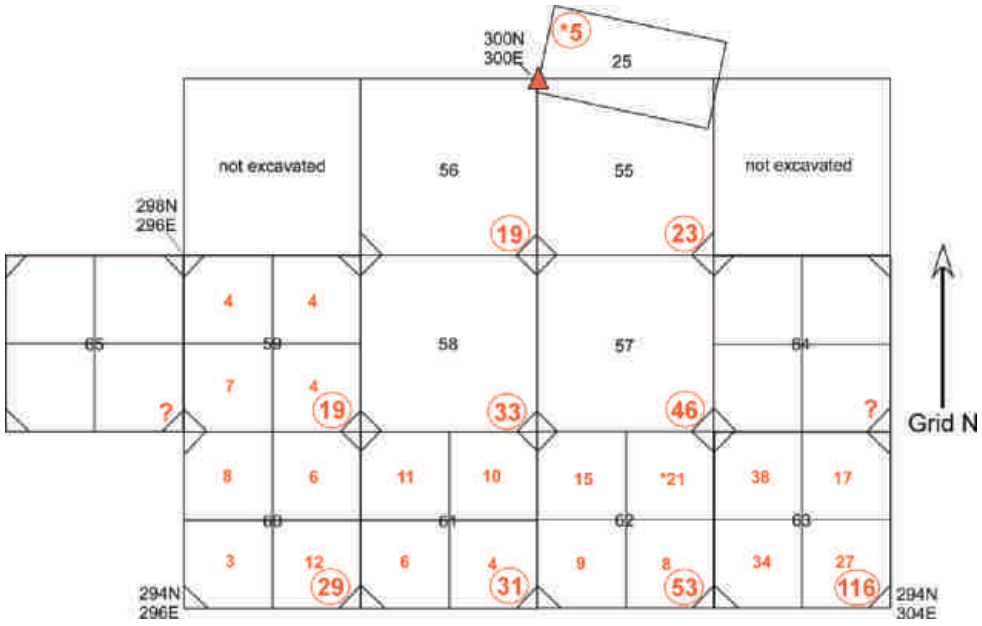


Fig. 3: Plan view of the most recent (2009-2011) block excavation at Flamingo Bay (38AK469) showing frequency of identified gastroliths (in red) recovered from 2 X 2-meter test units and later for individual quads within test units. Total number of gastroliths for individual 2 X 2-meter units are circled. Provenience 25 (*) is from an earlier excavation, and gastrolith numbers are likely low due to pebbles not being collected. Prov. 62NE was excavated using 3.2 millimeter mesh (0.13-in) as opposed to the standard 6.4 millimeter (0.25-in) mesh. Recent excavations of Prov. 64 and 65 have yet to be analyzed. (SCIAA/SRARP drawing)

Fig. 4: Processing modern wild turkey (Meleagris gallopavo) gizzards to extract gastroliths. Notice the large pecan, seeds and other food remains inside of gizzard in addition to gastroliths. (SCIAA/SRARP photo)

duck gizzards and all of the Edgefield County turkey and duck gizzards have been processed. Unfortunately, large waterfowl are not yet represented in our comparative collection. As expected, preliminary examination of the gastroliths we extracted from the obtained gizzards shows that only the turkey gastroliths approach the size of our largest archaeological specimens (Figs. 4-5). All of the ducks, being much smaller birds, have gastroliths in the sand to grit size range.

Another aspect of our 2011 gastrolith comparative analysis initiative started with Brooks examining all of the pebbles from the 2009 and 2010 field seasons (Block Excavation Proveniences 55-63) and pulling any additional pebbles that are plausibly gastroliths. Particular attention was paid to non-quartz, "exotic" pebbles that might be non-local and, therefore, potentially indicative of migratory waterfowl. This accomplished, the gastroliths and "probable" gastroliths are currently being analyzed, with provenience, level, quad, raw material (mineralogy), maximum length (millimeter), maximum width (millimeter), and weight (gram) being recorded. Concurrently, samples were sent to Andrew Ivester (Department of Geosciences, University of West Georgia), for SEM (Scanning Electron Microscope) analyses, with the comparative samples consisting of five prehistoric gastroliths, five modern turkey gastroliths, five "exotic" gastroliths, and five, presumably local, quartz pebbles from below the archaeological levels (e.g., Fig. 6). Although preliminary, it does look like there may be some "exotic" or non-local gastroliths represented. That said, given the Piedmont-Mountain source area for the predominantly fluvial-derived Upland Unit, what is geologically "local" for that vast source area has yet to be definitively determined. Future research will entail more detailed mineralogical analyses of these and other samples.

Again, serendipitously, while conducting the preliminary SEM analysis, Ivester observed:

> *On the surface of the modern turkey gastroliths, there is a good bit of organic matter in the low points and in crevices and pits, verified with a high carbon spectral peak. And on several prehistoric gastroliths there is also organic matter in the low pits and crevices—we verified this also by the high carbon peak in spectra from these pits. The carbon shows up as dark spots on the back-scattered electron images. I'm thinking at this point that the organic matter has survived there since prehistoric times—I don't see how organic matter would accumulate there post-depositionally. So it's possible that the presence of organic*

Fig. 5: Clump of gastroliths and food remains extracted from a wild turkey gizzard. (SCIAA/SRARP photo)

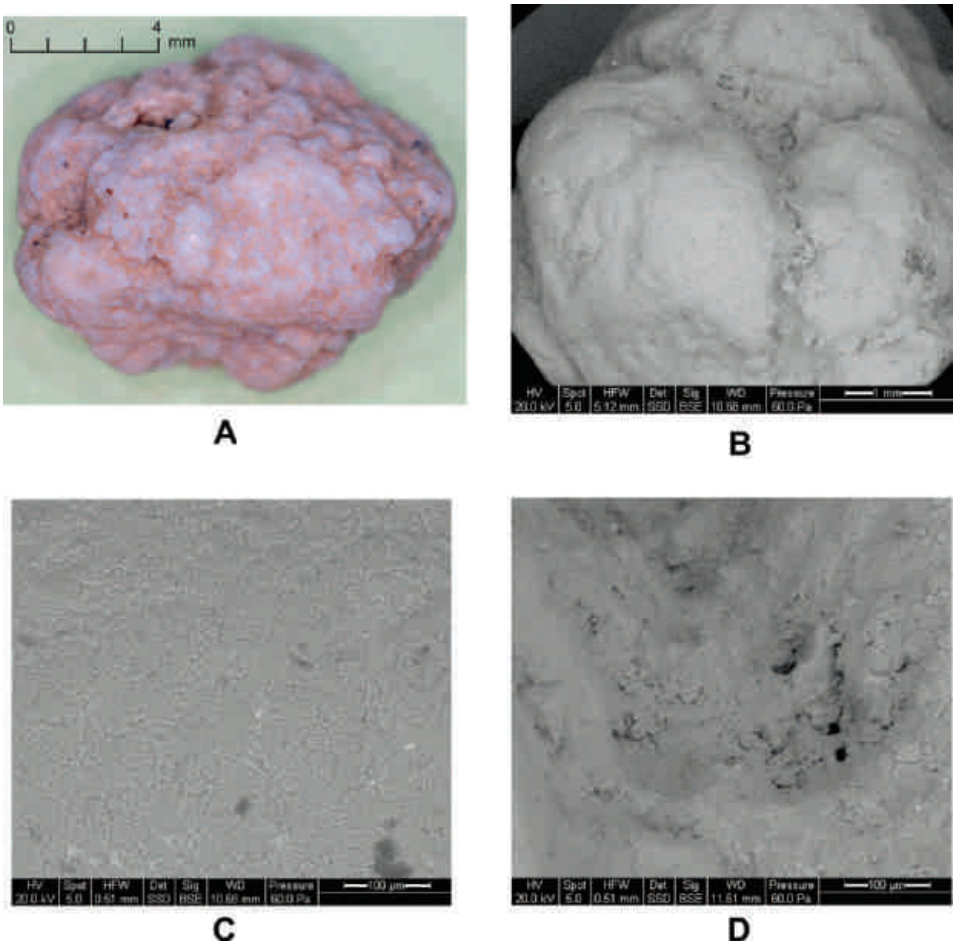


Fig. 6: Optical and scanning electron microscope (SEM) images of a prehistoric gastrolith (Prov. 56G) from 38AK469. (A) Low power optical image, (B) 50x SEM image, (C) 500x high point SEM image, (D) 500x low point SEM image. Note: organic carbon appears as dark spots within small crevices on the surface of the gastrolith (image D). (SCIAA/SRARP photo)

matter in pits may be a good identifier for gastroliths (Andrew Ivester 2011, elec. comm.).

The discovery and future analyses of the organic residues apparently associated with the gastroliths fits nicely with other analyses of organic chemistry being contemplated. The oily or greasy nature of waterfowl makes them particularly amenable to preserving through smoking because the flesh does not dry out so readily as lean meat. If the birds were smoked on racks, as is traditionally done, then the grease would drip down into the fire. These fats could potentially be sequestered in the hickory nut charcoal being used for smoking and in the fine or clay fraction of the sediments.

Based on a conversation with Gary Mills (pers. comm., July 12, 2010), an organic chemist with the University of Georgia's Savannah River Ecology Laboratory, there is the potential for deriving charcoal signatures for slow combustion (smoking) vs. fast combustion (fuel), as well as for extracting glycerides from fat residues that may provide information on diet. Thus, organic chemistry and isotopic analyses may be the key for determining whether or not smoking was a component of the bird processing at 38AK469, and whether the target resource was turkey or large migratory waterfowl. In any case, the recognition of gastroliths (an often ignored or overlooked "artifact") in archaeological assemblages provides a rare and unexpected insight into the diverse food procurement strategies of Early Holocene hunter-gatherers occupying Carolina bay sand rims and suggests that our traditional sampling strategies for archaeological sites may be missing an important class of data (e.g., Jones 2009) Clearly, we must move beyond "arrowheads and potsherds" to address such issues.

References

Brooks, M. J., and B. E. Taylor
2003 Long-Term Geoarchaeological and Paleoenvironmental Research at Flamingo Bay. In *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 2003*, pp. 56-57. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Hudson, C.
1976 *The Southeastern Indians*. The University of Tennessee Press, Knoxville.

Jones, S.
2009 *Gastroliths: The Neglected Artifact*. Manuscript on File at the University of Georgia Archaeology Laboratory, Athens, GA.

Moore, C. R., M. J. Brooks, A. H. Ivester, and T. A. Ferguson
2010 Geoarchaeological and Paleoenviromental Research. In *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 2010*, pp. 57-85. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Nystrom, P. G., Jr., R. H. Willoughby, and L. K. Price
1991 Cretaceous and Tertiary Stratigraphy of the Upper Coastal Plain, South Carolina. In *The Geology of the Carolinas*, edited by J. W. Horton and V. A. Zullo, pp. 221-240. University of Tennessee Press, Knoxville.

Walker, H. J., and J. M. Coleman
1987 Atlantic and Gulf Coastal Province. In *Geomorphic Systems of North America*, edited by W. L. Graf, pp. 51-110. Centennial Special, Vol. 2 American Geological Society, Boulder, Colorado.

Office of the State Archaeologist

ArchSite—Part II

By ARCH Site Committee

(Part I in Legacy, Vol. 15, No. 2, August 2011)

Layer Descriptions

The application includes a number of layers that are available in two different views, a Public View and a Subscriber View. The following is a description of data layers available to both views.

National Register Sites—These layers are managed by the South Carolina Department of Archives and History (SCDAH) and are updated on a continual basis to reflect new listings in the National Register. Spatial and attribute data are derived from the National Register nomination files at the SCDAH. Non-restricted data layers include hyperlinks to images and scanned nomination forms (http://www.nationalregister.sc.gov/nrlinks.htm).

Historic Structures/Areas—These layers are maintained by the SCDAH and represent a partial inventory of the state's historic resources (primarily standing structures). Spatial and attribute data are derived from countywide architectural surveys, compliance survey reports, and determinations of eligibility made by the South Carolina SHPO. Data layers are updated on a continual basis.

Streets—Street centerline data was obtained from the SC Budget and Control Board Office of Research and Statistics. The data layer is under construction.

SC Quad Index—The USGS 7.5 Minute Quadrangle Map Index was obtained from the South Carolina Department of Natural Resources GIS Data Server.

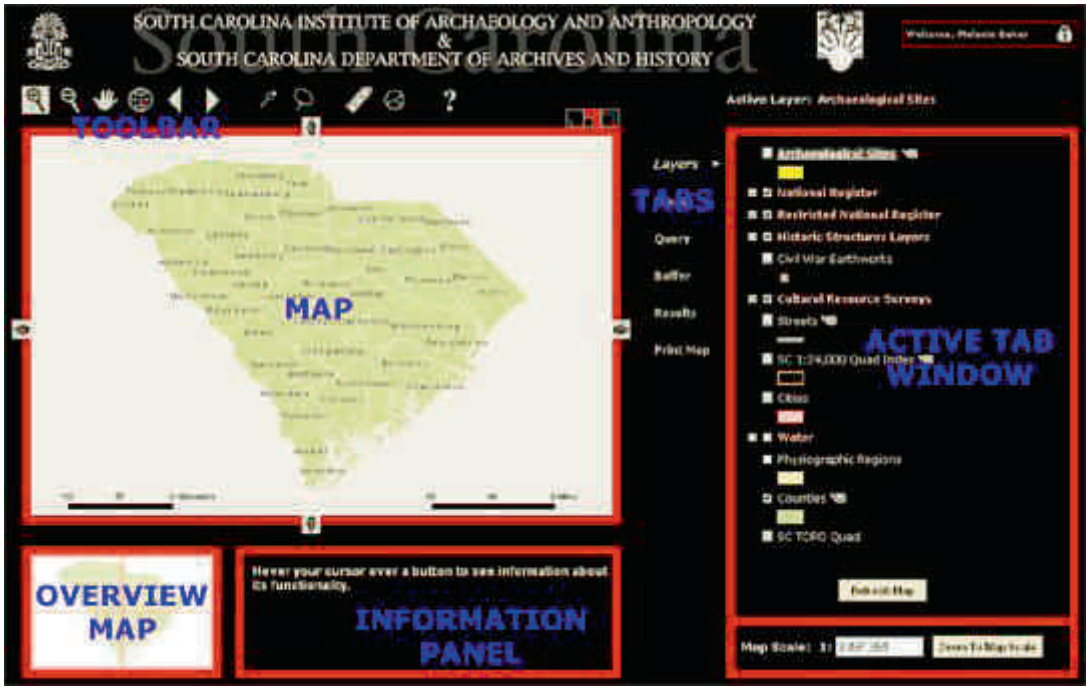
Quads by Period—These layers are the archaeological site data as raw counts per topographic quadrangle, by time period. Currently, the raw counts are not accurate due to the incomplete status of the archaeological sites data.

Counties—The Counties data layer was obtained from the South Carolina Department of Natural Resources GIS Data Server.

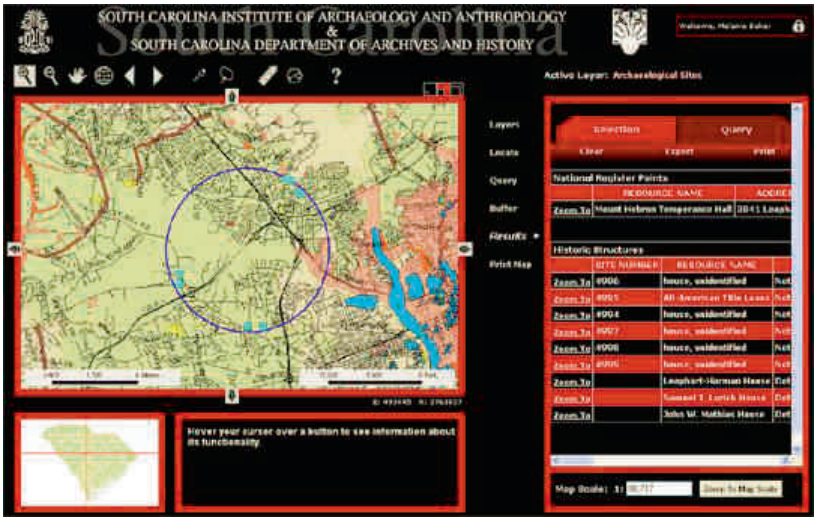
The following data layers are only available to the Subscriber view.

Archaeological Sites—This layer is managed by the South Carolina Office of the State Archaeologist (OSA) and is updated on a continual basis. Spatial and attribute data are derived from OSA's copies of the USGS topographical maps of SC, and the official Site Files and report files held at the SCIAA. Non-restricted data layers currently include the polygons representing archaeological sites and some supporting documentation in the form of the Site File Forms and reports maintained at SCIAA, with the intention of including all supporting documentation as funding and time permits.

Cultural Resource Survey Areas—These layers are maintained by the SCDAH and represent archaeological and historic architectural surveys performed in compliance with state and federal legislation. The majority of the surveys included in this data layer were performed after 1996.



Earthworks—The Civil War Earthworks layer represents Civil War earthworks and sites that were recorded during two thematic surveys of the Low Country (Trinkley and Fick 2000; SC Battleground Preservation Trust



1995). The data sets were provided by the consultants as part of a Federal Survey and Planning Grant. Copies of the reports are on file at the SCDAH.

SC Topo Quad Raster Catalog—Scanned copies of all USGS 7.5 Minute quadrangle maps were obtained from the South Carolina Department of Commerce by the SCDAH. The raster catalog was created by ESRI during the development of this application.

ArchSite Viewer Options

There are two user options for ArchSite, a Public View and a Subscriber View.

Public View—Many people are curious about what archaeological or historical sites are to be found in and around the locations where they live. Cultural resource data layers available in the Public View include: National Register Properties, Historic Structures, and Historic Areas. Archaeological site data is available as raw counts per topographic quadrangle. Access to this resource is available at no cost.

Subscriber View—The Subscriber View provides access to archaeological site data and restricted National Register properties in addition to the non-restricted data layers available in the Public View. The Subscriber View also includes export functionality that allows users to obtain digital shapefiles from all of the data layers. Subscriber level users do not upload sites and documents; they are only viewing the data generated and uploaded by others. The Subscriber View is password protected and only available to users who sign a license agreement and pay an annual subscription fee. Subscribers to this view go through a vetting procedure to ensure that their request for access of actual site location data is appropriate and to protect the resources represented in ArchSite, which are both vulnerable and nonrenewable. Subscribers to this view are generally federal, state, and local professionals who need access for compliance, planning, and stewardship activities. Researchers, students, county and city planners among others are also encouraged to subscribe to ArchSite.

New Interim Administrator and Data Entry Technician

In 2011, the SCDAH and the SCDOT provided grants to support ArchSite to fill two positions, the ArchSite Administrator and a Data Entry Technician. In February 2011, Tamara Wilson became the ArchSite administrator. Her position is part-time while she continues working as an archaeological technician with the Applied Research Division at the SCIAA, where she has been employed since 1999. Working closely with Keith Derting at the SCIAA, Jodi Barnes, archaeologist and GIS coordinator at the SCDAH, and Chad Long, archaeologist at the SCDOT, Wilson manages ArchSite updates and subscriptions, as well as, meeting with professionals who require more in-depth queries from the database.

Peggy Hemphill is the new data entry technician. Her background is in accounting and business analysis. She has worked as an accountant with a variety of professional businesses and non-profit organizations around the Columbia area. Mrs. Hemphill has been contracted to update the ArchSite database, adding archaeological site polygons and their attribute data.

Current News

ArchSite is continually updated. In just the first half of 2011 roughly 500 new archaeological sites and 500 historic properties were added to the database. Information from the site forms was also added to the database for each new site. As time permits, data from site forms is added to the database for those sites that currently only exhibit geographical location. As well, sites are updated to the latest project effort when revisit forms are turned into the site files office.

The SCIAA, in collaboration with the ArchSite Committee, has applied for a National Endowment for the Humanities grant to fund the incorporation of all of South Carolina's site forms into the ArchSite system. This four stage process will include optical scanning, manually correcting the digital format where needed, populating individual fields within the geodatabase, and linking the final product to the ArchSite web application. This will provide users with a more comprehensive and searchable database of the state's archaeological records. If funding is granted, the process is expected to take two years. A determination on funding will be given in the spring of 2012.

In addition, new ideas for incorporating different types of data are also being discussed to ensure that ArchSite is vital to the preservation of South Carolina's cultural heritage. Please check out ArchSite (http://archsite.cas.sc.edu/ArchSite) today.

Special Activities

Commemoration of the 450th Anniversary of the Landing of French Explorer Jean Ribaut on Parris Island, South Carolina in May 1562

By Mary Lou Brewton, Vice President, Beaufort County Historical Society and Nena Powell Rice

Celebration Event on May 25, 2012

The Beaufort County Historical Society, in conjunction with the SC Institute of Archaeology and Anthropology/ Archaeological Research Trust and other historical organizations, will sponsor a ceremony to commemorate the 450th anniversary of the landing of the French explorer, Jean Ribaut, in South Carolina and the establishment of Charlesfort on Parris Island, South Carolina. This ceremony will be held at the Charesfortl/ Santa Elena National Historic Landmark site on Parris Island on Friday, May 25, 2012 at 1:30 PM.

The ceremony at Charlesfort will feature select dignitaries and VIP's that will make remarks at the Ribaut Monument and will be followed by a tour of the Charlesfort archaeological site, with a reception to follow at the Parris Island Museum. The ceremony is free and open to the public. Each historical organization will distribute a press release and will mail invitations to their respective groups, providing statewide coverage.

At this point, it is estimated that over 1,000 people with a direct interest in historical events will be notified, and we hope that around 300 will attend the ceremony and reception at Charlesfort on Parris Island.

Painting of French explorer Jean Ribault landing on Parris Island to build Charelsfort in 1562. (Photo courtesy of the Beaufort History Museum)

Supporting Organizations

Beaufort County Historical Society
Parris Island Historical and Museum Society—Parris Island Museum
South Carolina Historical Society
Huguenot Society of South Carolina
Archaeological Society of South Carolina—Hilton Head Island Chapter
South Carolina Institute of Archaeology and Anthropology
SCIAA Archaeological Research Trust
Archaeological Society of South Carolina—Hilton Head Island Chapter
Historic Port Royal Foundation
Parris Island Historical Society
Colonial Dames and Heritage Society
Coastal Discovery Museum at Historic Honey Horn Plantation
Town of Port Royal
Heritage Library of Hilton Head

Executive Committee

Dr Stephen Wise, Director Parris Island Museum

Mary Lou Brewton, Vice-President of the Beaufort County Historical Society

Jean Guilleux, Archaeological Society of South Carolina, Inc—Hilton Head Island Chapter

Joe Lee, Town Councilman of The Town of Port Royal and the Historic Port Royal Foundation

Chester DePratter digging in the moat of Charlesfort. (Photo courtesy of Chester DePratter)

Anne Ellebee, President of the Historic Port Royal Foundation

Nena Rice representing the Archaeological Research Trust Board of the SC Institute of Archaeology and Anthropology at the University of South Carolina-Columbia

Dr. Chester DePratter, Associate Director of Research and Archaeologist at the SC Institute of Archaeology and Anthropology at the University of South Carolina-Columbia

Ginny Zemp-Howell, South Carolina Historical Society

Robert Prioleux, Huguenot Society of South Carolina-Charleston

There will be a Lecture Series offered in various locations along the coast leading up to the commemorative event.

Lecture Series Schedule

April 14—Dr. Chester DePratter will speak on "History and Archaeology and Charlesfort" at The Charleston Museum at 3 PM sponsored by the Huguenot Society of South Carolina.

April 26—Richard Porcher will speak the "French Naturalist" at The Shed sponsored by the Port Royal Sound Foundation.

May 1—Margaret Pickett and Dwayne Pickett will speak on "The European Struggle to Settle North America" at the Port Royal Historical Society in the Town of Port Royal.

May 3— Margaret Pickett and Dwayne Pickett will speak on "The European Struggle to Settle North America" at the Historic Port Royal Foundation in the Town of Port Royal.

May 17—Robert Prioleux will speak on the "History of Jean Ribaut at Charlesfort" at the Beaufort Yacht and Sailing Club sponsored by the Beaufort County Historical Society.

May 22—Dr. Chester DePratter will speak on "Excavating Charlesfort" at the Coastal Discovery Museum at Honey Horn Plantation on Hilton Head Island sponsored by the Archaeological Society of South Carolina—Hilton Head Island Chapter.

May 24—Harry Chikades will moderate a discussion on "Reminiscing—Prologue to Freedom" at the University of South Carolina Beaufort sponsored by the Heritage Society.

Plans are still being firmed up for activites leading up to the commemorative event. In addition to the lecture series, there will be a period musical concert, and the Town of Port Royal will host a children's parade.

Please ***SAVE THE DATE*** for Friday, May 25, 2012, and plan to attend this exciting and historic event! For more information as we get closer to the date, please contact Nena Powell Rice at (803) 576-6573 Office or email her at nrice@sc.edu.

ART / SCIAA Donors Update January 2011-January 2012

The staff of the Institute wishes to thank our donors who have graciously supported the research and programs listed below.

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George "Buddy"Wingard with "Dave" pot at the 2nd Annual Gala in February 2011. (Photo by Nena Powell Rice)

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2nd Annual ART Gala, The Palmetto Club, Columbia, SC, February 26, 2011. (Left to right): President Harris Pastides, ART Board Member Patricia Moore-Pastides, ART Board Chair George Bell, and ART Board Secretary Nena Powell Rice. (Photo courtesy Nena Powell Rice)

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Betti Bell, George Bell, Hunter Bridges, Steve Smith, and Heyward Robinson at Rivers Stone's mountain home near Travelers Rest, SC at the August ART Board meeting in 2011. (Photo by Nena Powell Rice)

Bill Bridges, Lane Harper, Tony, Rivers Stone (Host), and Teah Weiss at ART Board gathering in August 2011. (Photo by Nena Powell Rice)

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Stan South behind the transit at Santa Elena/Charlesfort. (SCIAA photo by Chester DePratter)

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The Third Art Annual Giving Society Party

A Tribute to the Life and Career of Stanley Austin South

Leland Ferguson, Master of Ceremonies

Saturday, February 25, 2012
Clarion Townhouse Hotel, Columbia, SC
5:30-9:00 PM

Cocktails and Heavy Hors d'oeuvres
Business Attire
$30/person

Payment and Reservation Must Be Received by February 20, 2012

RSVP to Nena Powell Rice *(803) 576-6573 Office*
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